Full Circle Magazine

Issue #180

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Editorial

Welcome to the latest issue of Full Circle

Happy birthday! Incredible as it sounds, FCM is fifteen years old this month. It was April 2007 when I had a crazy idea of starting an Ubuntu magazine and released the first issue. I had no idea that I'd still be doing it all these years later. Obviously, I'm not alone in this effort. I have to give HUGE thanks to all the people who've helped me through the years; writers, proof-readers, translators, etc. etc.. Thank you all!

As ever, we have Python, Inkscape, and Blender articles. No Micro article this month, but we do have a return to Latex with some good news if you're a Latex fan. No review of Ubuntu 22.04 this month, but it's coming next month and with a twist. I'll leave you in suspense until next month.

If you're in the Telegram group, or on the mailing list, you'll already know about this, but: we've got a new website! Yes, finally! It's taken years to find someone, but step forward Arun from the Telegram group. He's done an amazing job starting from nothing and ending up with a site that should be faster than the old Wordpress one that was a bit bloated and always under attack from those pesky internet ragamuffins. HUGE thanks to him for that. The site is still in beta, but you can try it out at: *https://beta.fullcirclemagazine.org*.

Don't forget: if you're looking for some help, advice, or just a chit chat: remember, we have a Telegram group: *https://t.me/joinchat/24ec1oMFO1ZjZDc0*. I hope to see you there. Come and say hello.

Anyway, stay safe! Ronnie

FCM PATREON : https://www.patreon.com/fullcirclemagazine

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NEWS

Submitted by ErikTheUnread

Full Circle Weekly News

http://fullcirclemagazine.org/feed/podcast

http://www.stitcher.com/s?fid=85347&refid=stpr

http://tunein.com/radio/Full-Circle-Weekly-News-p855064/

https://player.fm/series/the-full-circle-weekly-news

Capyloon operating system based on Firefox OS:

03/26/2022

An experimental release of the Capyloon operating system, built web technologies and continuing the development of the Firefox OS platform and the B2G (Boot to Gecko) project, is presented. The project is being developed by Fabrice Desré, former leader of the Firefox OS team at Mozilla and chief architect of KaiOS Technologies, which develops KaiOS, a fork of Firefox OS. Among the main tasks of Capyloon is the provision of confidentiality and providing the user with the means to control the system and information. Capyloon is based on the gecko-b2g engine, forked from the KaiOS repository. The source of the project are distributed under the AGPLv3 license.

The first release is ready for use on PinePhone Pro, Librem 5 and Google Pixel 3a smartphones. Potentially, the platform can be used on the first PinePhone model, but the performance of this device may not be enough for comfortable work. The builds are available in packages for Debian, the Mobian environment (Debian's mobile variant), and in the form of an Android-based base system image. To install on Mobian and Debian, just install the proposed deb package and run the b2gos shell.

The package includes programs such as a web browser, a client for the Matrix instant messaging system, a terminal emulator, an address book, a phone call interface, a virtual keyboard, a file manager and a webcam application. Supports the creation of widgets and placement of shortcuts on the desktop.

https://www.reddit.com/r/pinephone/comments/tnq22v/capyloon_now_available_for_the_pinephone_pro/

Debian 11.3 and 10.12 update:

26.03.2022

The third corrective update of the Debian 11 distribution has been published, which includes the accumulated package updates and fixes bugs in the installer. The release includes 92 stability updates and 83 security updates. Of the changes in Debian 11.3, we can note the update to the latest stable versions of the apache2, clamav, dpdk, galera, openssl and rust-cbindgen packages, as well as the removal of the outdated angular-maven-plugin and minify-maven-plugin packages.

Installation builds will be prepared for download and installation from scratch, as well as live iso-hybrid with Debian 11.3. Previously installed and up-to-date systems receive the updates that are present in Debian 11.3 through the native update system. Security fixes included in new releases of Debian are made available to users as updates are released via the security.debian.org service.

At the same time, a new release of the previous Debian 10.12 stable branch is available , which includes 78 stability updates and 50 vulnerability updates. The angular-maven-plugin and minify-maven-plugin packages have been removed from the repository. OpenSSL includes verification that the requested digital signature algorithm matches the selected security level. For example, if you try to use RSA + SHA1 with security level set to 2, an error will be returned, since this algorithm is not supported at level 2. If necessary, the level can be overridden by specifying the '-cipher "ALL:@SECLEVEL = 1"' option on the command line or by changing the settings in the /etc/ssl/openssl.cnf file.

https://www.debian.org/News/2022/20220326

The Rolling Rhino Remix Project develops a continuously updated build of Ubuntu:

27.03.2022

The first release of a new unofficial edition of Ubuntu Linux is presented - Rolling Rhino Remix , which implements a model of continuous delivery of updates (rolling releases). The revision may be useful for advanced users or developers who

need to keep abreast of all changes or who want to have access to the most recent versions of programs. Unlike existing scripts for converting daily experimental builds into a kind of rolling releases, the Rolling Rhino Remix project provides ready -made installation images (3.2 GB) that allow you to immediately get a rolling system without copying and running external scripts.

Changes from normal test builds of Ubuntu mainly come down to the inclusion of development branches of the repositories, which build packages with new versions of applications ported from the Debian Sid and Unstable branches. To install updates, a separate rhino utility is offered , which is a binding for installing updates, replacing the "apt update" and "apt upgrade" commands. The utility is also used to initially set up repositories in the /etc/apt/sources.list file after installation. As for the iso images, they are a repackaging of the daily Ubuntu Daily Build test builds.

https://rollingrhinoremix.github.io/blog/

4MLinux distribution release 39.0

27.03.2022

The release of 4MLinux 39.0 has been published, a minimalistic custom distribution that is not a fork from other projects and uses a JWM-based graphical environment. 4MLinux can be used not only as a Live environment for playing multimedia files and solving user tasks, but also as a disaster recovery system and a platform for running LAMP servers (Linux, Apache, MariaDB and PHP). Two iso-images (1 GB, x86_64) with a graphical environment and a selection of programs for server systems have been prepared for download.

https://4mlinux-releases.blogspot.com/2022/03/4mlinux-390-stable-released.html

Drawing 1.0.0 rleased:

03/27/2022

The release of Drawing 1.0.0, a simple drawing program similar to Microsoft Paint, has been published. The project is written in Python using the GTK library and distributed under the GPLv3 license. Ready packages are prepared for Ubuntu , Fedora and in Flatpak format. GNOME is considered as the main graphical environment, but alternative interface layouts are offered for elementaryOS, Cinnamon, LXDE, LXQt and MATE, as well as a mobile version for Pinephone and Librem 5 smartphones.

The program supports images in PNG, JPEG and BMP formats. Provides traditional drawing tools such as pencil, stylus pressure-sensitive brushes, airbrush, eraser, lines, rectangles, polygons, freeform, text, fill, marquee, crop, scale, transform, rotate, change brightness, select and replace colors, filters (increasing contrast or saturation, blurring, adding transparency, inverting).

https://maoschanz.github.io/drawing/

Release of the SDL_sound 2.0 library:

28.03.2022

14 years since the last release, the SDL_sound 2.0.1 library was made (release 2.0.0 was skipped), which provides an add-on to the SDL library with functions for decoding popular sound file formats such as MP3, WAV, OGG, FLAC, AIFF, VOC , MOD, MID and AU. The significant version number change is due to the code being moved from the LGPLv2 copyleft license to the GPL-compatible zlib permissive license. In addition, despite maintaining backward compatibility at the API level, SDL_sound is now only possible based on the SDL 2.0 branch (building on top of SDL 1.2 has been discontinued).

No external libraries are used to decode sound formats in SDL_sound - all source texts required for decoding are included in the main package. The provided API allows you to receive sound data both from files and at the level of sound streams from one or more external sources. You can attach custom audio processing handlers or provide access to the resulting

decoded data. Various manipulations with sampling rate, formats and audio channels are possible, including for on-the-fly conversion.

https://github.com/icculus/SDL_sound/releases/tag/v2.0.1

Fourth experimental release of Brutal OS:

28.03.2022

The fourth experimental release of the Brutal project has been published, in which enthusiasts develop an open operating system, in the architecture of which they try to combine the ideals of Unix systems of the 1970s with modern technologies. The system is developed from scratch and comes with its own standard C library and micro-kernel. The project code is written in C and distributed under the MIT license. Build supported for x86_64, i686, RISC-V, and ARM architectures.

Past test releases have focused on the development of the micro-kernel and the base system environment. Multitasking, a virtual memory manager, generic system calls, IPC, ACPI, and lightweight threads (fiber) were implemented. The fourth experimental release implements a separation of powers model based on Capabilities, and also proposes a graphics subsystem, with its own brutal-GUI user interface building library, brutal-GFX vector graphics library, and composite server. Basic rendering is done using the SDL library. SVG images, vector fonts and gradients are supported. The work done also mentions the creation of basic support for AHCI and EXT2, porting to the RISC-V architecture, and redesigning the IPC subsystem, which now uses an architecture reminiscent of IPC from the Fuchsia OS. In the next release, they plan to achieve the execution of the Doom game, add support for terminals (TTY), implement a command shell, bring the drivers for AHCI controllers and Ext2 / FAT file systems to the proper form. In more distant future plans, there is the development of a network stack and drivers for network devices.

https://brutal.smnx.sh/articles/milestone-4

sysvinit 3.02 init system release:

03/29/2022

A release of the classic sysvinit 3.02 init system was introduced, which was widely used in Linux distributions in the days before systemd and upstart, and now continues to be used in distributions such as Devuan, Debian GNU/Hurd and antiX. The versions of the insserv and startpar utilities used in conjunction with sysvinit have not changed. The insserv utility is designed to organize the boot process, taking into account dependencies between init scripts, and startpar is used to ensure that several scripts are launched in parallel during the system boot process.

Midnight Commander 4.8.28 file manager release:

29.03.2022

After seven months of development , the Midnight Commander 4.8.28 console file manager has been released , distributed in source code under the GPLv3+ license.

https://mail.gnome.org/archives/mc-devel/2022-March/msg00006.html

Release of Porteus Kiosk 5.4.0:

30.03.2022

The release of Porteus Kiosk 5.4.0 distribution, based on Gentoo and designed to equip stand-alone Internet kiosks, demonstration stands and self-service terminals, was announced. The distribution boot image is 140 MB (x86_64).

The base assembly includes only the minimum set of components required to run a web browser (Firefox and Chrome are supported), which is curtailed in its capabilities to prevent unwanted activity on the system (for example, settings are not allowed to be changed, download / installation of applications is blocked, only access to selected pages).

Additionally, specialized Cloud builds are offered for comfortable work with web applications (Google Apps, Jolicloud, OwnCloud, Dropbox) and ThinClient for working as a thin client (Citrix, RDP, NX, VNC and SSH) and Server for managing a network of kiosks.

The configuration is carried out through a special wizard, which is combined with the installer and allows you to prepare a customized version of the distribution for placement on a USB Flash or hard drive. For example, you can set a default page, define a whitelist of allowed sites, set a password for guest login, define an inactivity timeout for logging out, change the background image, customize the browser skin, add additional plugins, enable wireless networking, configure keyboard layout switching, etc.

During boot, system components are verified by checksums, and the system image is mounted in read-only mode. Updates are installed automatically using the mechanism of atomic replacement of the entire system image. It is possible to centrally remotely configure a group of typical Internet kiosks with configuration download over the network. Due to its small size, by default, the distribution is loaded entirely into RAM, which noticeably increases the speed of operation.

https://porteus-kiosk.org/news.html#220328

Release of Finnix 124:

30.03.2022

Finnix 124 Live distribution is available, which is timed to coincide with the 22nd anniversary of the project. The distribution is based on Debian and supports only console, but contains a good selection of utilities for the needs of an administrator. The composition includes 584 packages with all kinds of utilities. The size of the iso image is 455 MB.

https://www.finnix.org/

Release of MirageOS 4.0:

30.03.2022

After a year and a half of development, the release of the MirageOS 4.0 project has been published, which allows you to create operating systems for a single application, in which the application is delivered as a self-sufficient "unikernel" that can run without the use of operating systems, a separate OS kernel and any layers. The application development language is OCaml. The project code is distributed under a free ISC license.

All low-level functionality native to the operating system is implemented as a library attached to the application. An application can be developed on any OS and then compiled into a specialized kernel (the unikernel concept) that can run directly on top of Xen, KVM, BHyve and VMM (OpenBSD) hypervisors, on mobile platforms, as a process in a POSIX-compliant environment, or in Amazon Elastic Compute Cloud and Google Compute Engine cloud environments.

https://mirage.io/blog/announcing-mirage-40

First release of D-Installer, a new installer for openSUSE and SUSE:

31.03.2022

The developers of YaST, used by openSUSE and SUSE Linux have released the first installer image with a new installer developed by the D-Installer project that supports installation management via a web interface. The prepared image is intended to introduce D-Installer and provides the means to install a continuously updated edition of openSUSE Tumbleweed. D-Installer is still positioned as an experimental project and the first release can be seen as the transformation of a conceptual idea into the form of an initial product that is already usable, but requires a lot of improvement.

D-Installer is about separating the user interface from the YaST internals and making it possible to use different frontends. YaST libraries continue to be used to install packages, check equipment, partition disks and other functions necessary for

installation, on top of which a layer is implemented that abstracts access to libraries through a unified D-Bus interface.

For interaction with the user, a front-end, built using web technologies was made. The fontend includes a handler that provides access to D-Bus calls over HTTP and a web interface that is displayed to the user. The web interface is written in JavaScript using the React framework and PatternFly components. The service for binding the interface to D-Bus, as well as the built-in http server, are written in Ruby and built using ready-made modules developed by the Cockpit project, which are also used in Red Hat web configurators.

Among the development goals of D-Installer is the elimination of existing limitations of the graphical interface; expanding the possibilities for using YaST functionality in other applications; avoiding being tied to one programming language (D-Bus API will allow you to create add-ons in different languages); encouraging the creation of alternative settings by community members.

https://yast.opensuse.org/blog/2022-03-31/d-installer-first-public-release

Release of OpenToonz 1.6:

04/01/2022

OpenToonz 1.6 project is out, which continues the development of the source code for Toonz's professional 2D animation package, which was used in the production of the animated series Futurama and some of the animated films nominated for the Academy Award. In 2016, the Toonz code was open -sourced under the BSD license and has continued to develop as a free project ever since.

OpenToonz also supports the connection of plug-ins with effects implemented using machine learning technologies, for example, using effects, you can automatically change the style of the picture and simulate distorted incident light, like in cartoons shot using classic technologies used before the advent

of digital creation package animations.

https://github.com/opentoonz/opentoonz/releases/tag/v1.6.0

Release of the Deepin 20.5 distribution:

04/01/2022

Deepin 20.5, based on Debian 10, but developing its own Deepin Desktop Environment (DDE) and about 40 user applications, including the DMusic music player, DMovie video player, DTalk messaging system, installer and installation center of Deepin programs software center was announced. The project was founded by a group of developers from China, but has been transformed into an international project. Development is distributed under the GPLv3 license. The size of the bootable iso image is 3 GB (amd64).

Desktop components and applications are developed using C/C ++ (Qt5) and Go languages. The key feature of the Deepin desktop is the panel, which supports multiple modes of operation. In the classic mode, a more explicit separation of open windows and applications proposed for launching is carried out, the system tray area is displayed. The efficient mode is somewhat reminiscent of Unity, mixing indicators of running programs, favorite applications and control applets (volume / brightness settings, connected drives, clock, network status, etc.). The program launcher interface is displayed in full screen and provides two modes - viewing favorite applications and navigating through the catalog of installed programs.

https://www.deepin.org/en/2022/03/31/deepin-20-5/

Ubuntu 22.04 beta release:

04/01/2022

The beta release of the Ubuntu 22.04 "Jammy Jellyfish" is avalable, a complete freeze of the package base was made, and the developers proceeded to the final testing and bug fixes. The release, which is categorized as a Long Term Support (LTS)

release with updates for 5 years through 2027, is scheduled for April 21st. Ready test images are created for Ubuntu, Ubuntu Server , Lubuntu, Kubuntu, Ubuntu Mate, Ubuntu Budgie, Ubuntu Studio, Xubuntu and UbuntuKylin.

https://lists.ubuntu.com/archives/ubuntu-announce/2022-March/000278.html

One of the founders left the elementary OS project:

04/01/2022

Cassidy, co-founder of the elementary OS distribution, has announced that he has retired from the project. Since 2018, Cassidy has been developing elementary OS full-time. Initially, due to financial problems with elementary Inc, Cassidy wanted to take a job at a new job in order to free up resources that were spent on salaries for him, and continue to participate in the life of elementary OS and maintain his place as a co-owner of the company (the offered vacancy was related to the development of an open code and allowed me to continue spending some time on elementary OS).

Due to a conflict with another co-founder, Cassidy ultimately decided to leave the project entirely. Cassidy transferred his stake in elementary Inc to Danielle Foré, who is now the sole owner. The terms of the deal were not disclosed, but, apparently, Cassidy agreed to Danielle's terms and received half of the funds remaining in the company's account. After leaving the project, Cassidy intends to dedicate his activities in the community to the development of GNOME, Flatpak and Flathub.

https://cassidyjames.com/blog/farewell-elementary/

Release of the Lutris 0.5.10 platform:

04/02/2022:

After six months of development, the Lutris 0.5.10 gaming platform has been released, providing tools to simplify the installation, configuration and management of games on Linux. The project code is written in Python and distributed under the GPLv3 license.

The project maintains a directory for quick search and installation of gaming applications, which allows you to launch games in Linux with one click through a single interface without worrying about installing dependencies and settings. Runtime components for launching games are supplied by the project and are not tied to the distribution used. Runtime is a distribution-independent set of libraries that includes components from SteamOS and Ubuntu, as well as various additional libraries.

You can install games distributed through GOG, Steam, Epic Games Store, Battle.net, Origin and Uplay. At the same time, Lutris itself acts only as an intermediary and does not sell games, therefore, for commercial games, the user must independently purchase the game in the corresponding service (free games can be launched with one click from the Lutris graphical interface).

Each game in Lutris is associated with a load script and a handler that describes the environment in which the game is launched. Including ready-made profiles with optimal settings for running games under Wine. In addition to Wine, games can be run using game console emulators such as RetroArch , Dosbox , FS-UAE , ScummVM , MESS/MAME and Dolphin.

https://github.com/lutris/lutris/releases/tag/v0.5.10

Release of Nitrux 2.1 with the NX Desktop:

04/02/2022

Nitrux 2.1.0 is out, built on Debian, KDE technologies and the OpenRC initialization system. The distribution develops its own desktop NX Desktop, which is an add-on for the KDE Plasma user environment, as well as the MauiKit user interface framework, on which a set of typical user applications is developed that can be used on both desktop systems and mobile devices. To install additional applications, the AppImages self-contained package system is being promoted. Full boot image sizeis 2.4 GB, and minimal with the JWM window manager is 1.5 GB. The code is distributed under free licenses.

NX Desktop offers a different styling, its own implementation of the system tray, notification center and various plasmoids, such as a network connection configurator and a multimedia applet for volume control and media playback control. Among the applications created using the MauiKit framework, one can note the Index file manager (Dolphin can also be used), the Note text editor, the Station terminal emulator, the Clip music player, the VVave video player, the NX Software Center application control center and the Pix image viewer.

A separate project is developing the Maui Shell user environment, which automatically adapts to the screen size and available input methods, and can be used not only on desktop systems, but also on smartphones and tablets. The environment develops the concept of "Convergence", which implies the ability to work with the same applications both on the touch screens of a smartphone and tablet, and on large screens of laptops and PCs. The Maui Shell can be launched either with its Zpace composite server using Wayland, or by running a separate Cask shell inside an X server-based session.

https://nxos.org/changelog/release-announcement-nitrux-2-1-0/

Release of xfce4-terminal 1.0.0:

04/03/2022

The developers of the Xfce project have introduced a major release of the Xfce Terminal 1.0.0 terminal emulator. The new release is prepared by a new maintainer who picked up development after the project went unmaintained in 2020. The program code is written in C language and distributed under the GPLv2 license.

The release is also notable for the change in the version numbering scheme. Within the 1.1.x branch, experimental releases will be made, on which the stable release 1.2.0 will then be built. In case of significant changes, such as porting to GTK4, or after the gradual achievement of 1.9.x numbering, a 2.0 branch is planned.

http://users.uoa.gr/~sdi1800073/sources/xfce_blog12.html

qutebrowser 2.5 and Min 1.24 web browsers available:

04/03/2022

The qutebrowser v2.5 web browser has been released, providing a minimal graphical interface that does not distract from viewing content, and a Vim text editor-style navigation system built entirely on keyboard shortcuts. The code is written in Python using PyQt5 and QtWebEngine. The source code is distributed under the GPLv3 license. The use of Python does not affect performance, since content is rendered and parsed by the Blink engine and the Qt library.

The browser supports a tabbed browsing system, a download manager, a private browsing mode, a built-in PDF viewer (pdf.js), an ad blocking system (at the host blocking level), an interface for viewing browsing history. To watch YouTube videos, you can set up a call to an external video player, like VLC. Moving around the page is carried out using the "hjkl" keys, to open a new page you can press "o", switching between tabs is done using the "J" and "K" keys or "Alt-tab number". Pressing ":" brings up a command line prompt where you can search the page and execute typical commands like in vim, such as ":q" to exit and ":w" to write the page.

At the same time, a new browser version , Min 1.24 , was released, offering a minimalistic interface built around manipulating the address bar. The browser was built using the Electron platform , which allows you to create stand-alone applications based on the Chromium engine and the Node.js platform. Min's interface is written in JavaScript, CSS, and HTML. The code is distributed under the Apache 2.0 license. Builds are generated for Linux, macOS and Windows.

Min supports navigating open pages through a system of tabs, providing features such as opening a new tab next to the current tab, hiding unused tabs (that the user hasn't accessed in a while), grouping tabs, and viewing all tabs as a list. There are tools for building lists of pending tasks / links to read in the future, as well as a bookmark system with support for full-text search. The browser has a built-in ad blocking system (EasyList list) and a code for tracking visitors, it is also possible to disable the download of images and scripts.

The central control element in Min is the address bar, through which you can send queries to the search engine (DuckDuckGo by default) and search the current page. As you type in the address bar, as you type, a summary of relevant information for the current query is generated, such as a link to a Wikipedia article, a selection from bookmarks and browsing history, and recommendations from the DuckDuckGo search engine. Each page opened in the browser is indexed and becomes available for subsequent search in the address bar. You can also enter commands in the address bar to quickly perform operations (for example, "!settings" - go to settings, "!screenshot" - create a screenshot, "!clearhistory" - clear browsing history, etc.).

https://github.com/minbrowser/min/releases/tag/v1.24.0 https://github.com/qutebrowser/qutebrowser/releases/tag/v2.5.0

New versions of Claws Mail 3.19.0 and 4.1.0:

04/03/2022

Releases of the light and fast mail client Claws Mail 3.19.0 and 4.1.0 were published, which in 2005 separated from the

Sylpheed project (from 2001 to 2005 the projects developed jointly, Claws was used to test future Sylpheed innovations). The interface of Claws Mail is built using GTK, the code is distributed under the GPL license. The 3.x and 4.x branches are developed in parallel and differ in the version of the GTK library used - the 3.x branch uses GTK2, while the 4.x branch uses GTK3.

https://lists.claws-mail.org/pipermail/users/2022-April/029774.html

Speek 1.6 messenger available, using Tor network for privacy:

04/04/2022

Decentralized messaging program Speek 1.6 was released providing maximum privacy, anonymity and tracking protection. Speek's user IDs are based on public keys and are not tied to phone numbers or email addresses. The infrastructure does not use centralized servers and all data exchange is carried out only in P2P mode through the establishment of direct connections between users over the Tor network. The project code is written in C++ using the Qt toolkit and distributed under the BSD license. Images are generated for Linux (AppImage), macOS and Windows.

The main idea of the project is to use the Tor anonymous network for data exchange. For each user, a separate Tor hidden service is created, the identifier, which is then used to determine the subscriber (the user's login matches the onion address of the hidden service). The use of Tor allows you to ensure the anonymity of the user and protect his IP address and location from disclosure. To protect correspondence from interception and analysis, in case of gaining access to the user's system, public key encryption is used and all messages are deleted after the session ends, without leaving traces as after normal live communication. Metadata and message texts are not stored on disk.

Before the start of communication, the keys are exchanged and

the user and his public key are added to the address book. You can add another user only after sending a communication request and obtaining consent to receive messages. Once launched, the application creates its hidden service and checks for the presence of hidden services for users from the address book, if their hidden services are running, users are marked as online. Sharing files is supported, which also uses encryption and P2P mode.

https://github.com/Speek-App/Speek/releases/tag/v1.6.0-release

Gentoo Starts Publishing Weekly Live Builds:

04/04/2022

The developers of the Gentoo project announced the resumption of Live builds, allowing users not only to assess the state of the project and demonstrate the capabilities of the distribution without having to install it on disk, but also to use the environment as a portable workstation or a tool for the system administrator. Live builds will be updated weekly to provide access to the latest versions of applications. The builds are available for the amd64 architecture, are 4.7 GB in size and are suitable for installation on DVD and USB drives.

The user environment is based on the KDE Plasma desktop and includes a large selection of applications and tools for system administrators and specialists.

To give the environment a recognizable appearance, a competition has been launched among users to develop a visual style, themes, boot animations and desktop wallpapers. The design must identify the Gentoo project and may include the distribution's logo or existing design elements. The work must provide a consistent design, be licensed under CC BY-SA 4.0, be suitable for use in various screen resolutions, and be adapted for delivery in a live image.

https://www.gentoo.org/news/2022/04/03/livegui-artwork-contest.html

First alpha release of Maui Shell userspace:

04/05/2022

The developers of the Nitrux project have presented the first alpha release of the Maui Shell user environment, developed under the concept of "Convergence", which implies the ability to work with the same applications both on the touch screens of a smartphone and tablet, and on large screens of laptops and PCs. Maui Shell automatically adapts to the screen size and available input methods, and can be used not only on desktop systems, but also on smartphones and tablets. The project code is written in C++ and QML and distributed under the LGPL 3.0 license.

When working on conventional monitors, the shell functions in desktop mode, with a panel fixed on top, the ability to open an arbitrary number of windows and control with the mouse. When equipped with a touch screen, the shell operates in tablet mode with vertical layout and opening windows in full screen or side-by-side layout similar to tiled window managers. On smartphones, panel elements and applications expand to full screen, as in traditional mobile platforms.

The same skin can be used for desktops, smartphones, and tablets without having to create separate versions for devices with different form factors. For example, when using Maui Shell on a smartphone or tablet, the shell allows you to turn your mobile device into a portable workstation that offers a full desktop experience when connected to a monitor, keyboard, and mouse.

Maui Shell uses the MauiKit GUI components and the Kirigami framework, which are developed by the KDE community. Kirigami is built on top of Qt Quick Controls 2, while MauiKit provides pre-built UI templates that allow you to quickly create applications that automatically adapt to screen size and available input methods. The project also uses components such as BlueDevil (Bluetooth management), Plasma-nm (network connection management), KIO, PowerDevil (power management), KSolid and PulseAudio.

Beta release is planned for June.

https://nxos.org/maui/maui-shell-alpha-release/

FerretDB 0.1, MongoDB implementation based on PostgreSQL DBMS:

04/05/2022

FerretDB 0.1 (formerly MangoDB) project is out, which allows you to replace the MongoDB document-oriented DBMS with PostgreSQL without making changes to the application code. FerretDB is implemented as a proxy server that translates calls to MongoDB into SQL queries to PostgreSQL, which allows you to use PostgreSQL as the actual storage. The code is written in Go and distributed under the Apache 2.0 license.

The need for migration may arise due to the transition of MongoDB to a non-free SSPL license, which is based on the AGPLv3 license, but is not open source, since it contains a discriminatory requirement to provide under the SSPL license not only the application code itself, but also the source codes of all components involved in providing cloud service.

The target audience for FerretDB is users who do not use the advanced features of MongoDB in their applications, but want to use a completely open software stack. At the current stage of development, FerretDB still supports only a part of the MongoDB features that are most often used in typical applications. In the future, they plan to achieve full compatibility with drivers for MongoDB and provide the ability to use FerretDB as a transparent replacement for MongoDB.

https://github.com/FerretDB/FerretDB/releases/tag/v0.1.0

Fedora 37 intends to only support UEFI:

04/05/2022

In Fedora 37, UEFI support is planned to be transferred to the category of "mandatory requirements for installing the

distribution on the x86_64 platform". The ability to boot previously installed environments on legacy BIOS systems will remain for a while, but new non-UEFI installations will no longer be supported. In Fedora 39 or later, BIOS support is expected to be completely removed. The Fedora 37 Change Request has been posted by Ben Cotton , Fedora Program Manager at Red Hat. The change has not yet been reviewed by the FESCo (Fedora Engineering Steering Committee), which is responsible for the technical part of the development of the Fedora distribution.

Hardware based on Intel platforms has shipped with UEFI since 2005. In 2020, Intel discontinued BIOS support on client systems and data center platforms. However, the end of BIOS support may result in the inability to install Fedora on some laptops and PCs released before 2013. Past discussions also mentioned the inability to install on BIOS-only virtualization systems, but UEFI support has since been added to AWS environments. UEFI support has also been added to libvirt and Virtualbox, but is not yet the default (it is planned for Virtualbox in the 7.0 branch).

The end of BIOS support in Fedora Linux will reduce the number of components used during boot and installation, remove VESA support, simplify installation, and reduce labor costs for maintaining the bootloader and installation builds, since UEFI provides unified standard interfaces, and BIOS requires separate testing of each option.

https://lists.fedoraproject.org/archives/list/devel@lists.fedoraproject.org/thread/K5YKCQU3YVCTMSBHLP4AOQWIE3AHWCKC/

GNU Emacs 28.1 released:

04/06/2022

The GNU Project has released the GNU Emacs 28.1 text editor. Up until the release of GNU Emacs 24.5, the project was developed under the personal direction of Richard Stallman, who handed over the leadership of the project to John Wiegley

in the fall of 2015. They have a long lst of improvements here;

https://www.mail-archive.com/info-gnu@gnu.org/msg03030.html

Release of the GNU Shepherd 0.9 init system

04/07/2022

Two years since the last major release, the GNU Shepherd 0.9 service manager (formerly dmd) has been published, which is being developed by the developers of the GNU Guix System distribution as an alternative to the dependency-aware SysV-init initialization system. The Shepherd control daemon and utilities are written in the Guile language (one of the implementations of the Scheme language), which is also used to define settings and parameters for starting services. Shepherd is already used in the GuixSD GNU/Linux distribution and is also intended for use in GNU/Hurd, but can run on any POSIX-compliant OS for which the Guile language is available.

Shepherd does the work of starting and stopping services by taking into account the relationship between services, dynamically determining and starting the services on which the selected service depends. Shepherd also supports conflict detection between services and prevents them from running concurrently. The project can be used both as the main initialization system (init with PID 1) and as a standalone to manage background processes of individual users (for example, to run tor, privoxy, mcron, etc.) with execution with the rights of these users.

https://www.mail-archive.com/info-gnu@gnu.org/msg03031.html

First release of the atomically upgradable carbonOS distribution:

04/07/2022

The first release of a custom Linux distribution carbonOS is presented, built using the atomic system layout model, in which the base environment is delivered as a whole, not broken

into separate packages. Additional applications are installed in Flatpak format and run in isolated containers. The size of the installation image is 1.7 GB. Project is distributed under the MIT license.

The contents of the base system are mounted in read-only mode to protect against modification in the event of a compromise (in addition, in the future they plan to integrate the ability to encrypt data and verify the integrity of files using digital signatures). The /usr/local partition is writable. The system update process boils down to loading a new system image in the background and switching to it after a restart. At the same time, the old system image is preserved and, if desired or problems arise, the user can return to the previous version at any time. During the development of the distribution, the system environment is assembled using the OSTree toolkit (the image is made from a Git-like repository) and the BuildStream build system, without using packages from other distributions.

User-installed applications are isolated from each other in containers. In addition to installing Flatpaks, the distribution also allows you to use the nsbox toolkit to create arbitrary containers, which can also host traditional distribution environments such as Arch Linux and Debian. It also provides support for the podman toolkit, which provides compatibility with Docker containers. To install the distribution, a graphical installer and an interface for the initial system setup are offered.

https://carbon.sh/blog/2022-03-31-release.html

Release of the SELKS 7.0, aimed at creating intrusion detection systems:

04/07/2022

Stamus Networks has published a release of a specialized distribution kit SELKS 7.0, designed to deploy systems for detecting and preventing network intrusions, as well as responding to identified threats and monitoring network

security. Users are provided with a turnkey network security management solution that can be used immediately after download. The distribution supports working in Live mode and running in virtualization environments or containers. The project is distributed under the GPLv3 license. The size of the boot image is 3 GB.

The system is built on Debian and the open IDS platform Suricata. The data is processed using Logstash and stored in the ElasticSearch storage. To track the current state and identified incidents, a web interface implemented on top of Kibana is offered. The Scirius CE web interface is used to manage the rules and visualize the activity associated with them. It also includes the Arkime packet capture system, the EveBox event evaluation interface, and the CyberChef data analyzer.

https://www.stamus-networks.com/pr/06-april-2022

Release of gzip utility 1.12:

04/08/2022

A set of utilities for data compression gzip 1.12, has been released. The new version fixes a vulnerability in the zgrep utility that allows, when processing a specially formatted file name that includes two or more newlines, to overwrite arbitrary files on the system, as far as current permissions allow. The problem has been manifesting since version 1.3.10, released in 2007.

Other changes include stopping installation of the zless utility on systems without the less utility, as well as ensuring that the correct information about files larger than 4 GB is output when executing the 'gzip -l' command (information about the size of decompressed data is now determined not based on a fixed 32-bit fields from the header, but through unpacking with the actual calculation of the data size).

https://www.mail-archive.com/info-gnu@gnu.org/msg03032.html

Release of OpenSSH 9.0 with transfer of scp to the SFTP

protocol:

04/08/2022

OpenSSH 9.0, an open implementation of the client and server for working with the SSH 2.0 and SFTP protocols, is out. In the new version, the scp utility has been moved by default to use SFTP instead of the legacy SCP/RCP protocol.

SFTP uses more predictable name handling methods and does not use shell processing of glob patterns in filenames on the other host side, which creates security problems. In particular, when using SCP and RCP, the server decides which files and directories to send to the client, and the client only checks the correctness of the returned object names, which, in the absence of proper checks on the client side, allows the server to transfer other file names that differ from those requested.

The SFTP protocol does not have these problems, but does not support expansion of special paths such as "~/". To address this difference, since OpenSSH 8.7, the SFTP server implementation supports the "*expand-path@openssh.com*" protocol extension to expand the ~/ and ~user/ paths.

When using SFTP, users may also encounter incompatibilities caused by the need to double-escape path expansion characters in SCP and RCP requests to prevent them from being interpreted on the remote side. In SFTP, this escaping is not required, and extra quotes can result in a data transfer error. At the same time, the OpenSSH developers refused to add an extension to repeat scp's behavior in this case, since double escaping is seen as a flaw that does not make sense to repeat.

https://lists.mindrot.org/pipermail/openssh-unix-dev/2022-April/040174.html

New Release of Raspberry Pi OS:

04/09/2022

The developers of the Raspberry Pi project have published the spring update of the Raspberry Pi OS 2022-04-04 (old Raspbian) distribution based on Debian. Three builds have been prepared for download - reduced (297 MB) for server systems, with a basic desktop (837 MB) and full with an additional set of applications (2.2 GB). The distribution comes with a PIXEL user environment (a fork of LXDE). About 35,000 packages are available for installation from the repositories.

https://www.raspberrypi.com/news/raspberry-pi-bullseye-update-april-2022/

Thunderbird 100 beta release integrates Matrix protocol support:

04/09/2022

The beta release of the Thunderbird 100 email client includes a client for the Matrix decentralized communications system that is included by default. The implementation supports advanced features such as end-to-end encryption, sending invitations, lazy loading of participants, and editing sent messages and more.

https://www.thunderbird.net/en-US/thunderbird/100.0beta/releasenotes/

Custom Material Shell 42:

10.04.2022

After a year of development, the release of the custom shell Material Shell 42 has been published, offering an implementation of the concepts of tiling and spatial window layout for GNOME. The project is designed as an extension for

GNOME Shell and aims to simplify navigation and increase work efficiency by window automation and predictable behavior of the interface. The code is written in TypeScript and distributed under the GPLv3 license. The release of Material Shell 42 provides support for running on top of GNOME 42.

The Material Shell uses a Spatial Model for switching between windows, which means dividing open applications into workspaces. Each workspace can contain multiple applications. Thus, a virtual grid of application windows is made, in which the columns are applications, and the rows are workspaces. The user can switch the viewport by moving on the grid relative to the current cell, for example, you can move the viewport to the left or right to switch between applications in the same workspace, and up or down to switch between workspaces.

Material Shell allows you to group applications depending on the subject or tasks performed by adding new workspaces and opening applications in them, forming a user-friendly and predictable window space. All windows are tiled and do not overlap. You can expand the current application to full screen, display side by side with other applications from the working area, display all windows in the form of columns or grids, as well as stack snapping of windows in an arbitrary form using horizontal and vertical pinning with neighboring windows.

https://github.com/material-shell/material-shell/releases/tag/42

MX Linux release 21.1:

04/10/2022

The lightweight distribution MX Linux 21.1 has been released, created by the communities formed around the antiX and MEPIS projects. The release is based on Debian with improvements from the antiX project and packages from its own repository. The distribution uses the sysVinit initialization system and its own tools for configuring and deploying the system. Available for download are: 1.9 GB 32-bit and 64-bit builds (x86_64, i386) with the Xfce desktop, as well as 64-bit builds with the KDE desktop.

The new release is synchronized with Debian 11.3 with updated app versions. The Linux kernel has been updated to version 5.16. The Disk-manager program for managing disks has been returned to the main structure. The mx-samba-config utility has been added to configure access to file storages using samba/cifs. They also improved installer performance.

https://mxlinux.org/

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When using SFTP, users may also encounter incompatibilities caused by the need to double-escape (//) path expansion characters in SCP and RCP requests to prevent them from being interpreted on the remote side. In SFTP, this escaping is not required, and extra quotes can result in a data transfer error. At the same time, the OpenSSH developers refused to add an extension to repeat scp's behavior in this case, since double

escaping is seen as a flaw that does not make sense to repeat.

https://lists.mindrot.org/pipermail/openssh-unix-dev/2022-April/040174.html

Minimal web browser links 2.26:

11.04.2022

Links 2.26, a minimalistic web browser, has been released and supports both console and graphical modes. When working in console mode, you can display colors and control the mouse if it is supported by the terminal used (for example, xterm). Graphics mode supports image output and font smoothing. In all modes, the display of tables and frames are provided. The browser supports the HTML 4.0 specification but ignores CSS and JavaScript. There is also support for bookmarks, SSL/TLS, background downloads and menu system control. When running, links consumes about 5 MB of RAM in text mode and 20 MB in graphic mode.

http://links.twibright.com/

Utilities for managing SSD drives - nvme-cli 2.0:

04/11/2022

A major release of the nvme-cli 2.0 utility suite, which provides a command-line interface for managing NVM-Express (NVMe) SSDs on Linux, has been published. Using nvme-cli, you can evaluate the state of the drive, view the error log, display statistics on operations, manage namespaces, send low-level commands to the controller, activate advanced features, etc. The code is written in C and distributed under the GPLv2 license.

The most significant changes that led to the formation of the 2.0 branch are related to the reorganization of the codebase - the libnvme library has been separated from the package, which will now be developed in a separate repository and can be used in arbitrary projects to call the functionality available

in nvme-cli. Simultaneously with nvme-cli 2.0, libnvme 1.0 was released, which stabilized the library API. In the functional changes in nvme-cli 2.0, we can note the addition of new commands "nvme config", "nvme dim", "nvme media-unit-stat-log", "nvme gen-tls-key" and "nvme check-tls-key".

https://github.com/linux-nvme/nvme-cli/releases/tag/v2.0

EndeavorOS 22.1 released:

11.04.2022

EndeavorOS 22.1 "Atlantis" is out, which replaced the Antergos distribution, which was discontinued in May 2019 due to the lack of free time for the remaining maintainers to maintain the project at the proper level. The size of the installation image is 1.8 GB (x86_64, the assembly for ARM is being developed separately).

Endeavor OS allows the user to easily install Arch Linux with the necessary desktop in the form in which it is conceived in its regular filling, offered by the developers of the selected desktop, without additional pre-installed programs. The distribution offers a simple installer to install a basic Arch Linux environment with a default Xfce desktop and the ability to install from the repository one of the typical desktops based on Mate, LXQt, Cinnamon, KDE Plasma, GNOME, Budgie, as well as i3 tile window managers, BSPWM and Sway. Work is underway to add support for Qtile and Openbox window managers, UKUI, LXDE and Deepin desktops. Also, one of the developers of the project is developing his own window manager "Worm".

https://endeavouros.com/

RHVoice 1.8.0 speech synthesizer released:

11.04.2022

RHVoice 1.8.0, an open-source speech synthesis system, was released, initially developed to provide high-quality support for

the Russian language, but then adapted for other languages, including English, Portuguese, Ukrainian, Kyrgyz, Tatar and Georgian. The code is written in C++ and distributed under the LGPL 2.1 license. It supports GNU/Linux, Windows and Android. The program is compatible with typical TTS (text-to-speech) interfaces for text-to-speech: SAPI5 (Windows), Speech Dispatcher (GNU/Linux) and Android Text-To-Speech API, but can also be used in the NVDA screen reader. The creator and main developer of RHVoice is Olga Yakovleva, who is developing the project despite being completely blind.

https://rhvoice.org/post/rhvoice-1.8.0/

Release of LXD 5.0:

11.04.2022

Canonical has released the LXD 5.0 container manager and LXCFS 5.0 virtual file system. The LXD code is written in Go and distributed under the Apache 2.0 license. The 5.0 branch is classified as a long-term support release - updates until June 2027.

The LXC toolkit is used as a runtime for launching as containers, which includes the liblxc library, a set of utilities (lxc-create, lxc-start, lxc-stop, lxc-ls, etc.), templates for building containers and a set of bindings for various programming languages. Isolation is carried out using the regular mechanisms of the Linux kernel. The mechanism of namespaces is used to isolate processes, the ipc, uts network stack, user IDs and mount points. cgroups are used to limit resources. Kernel features such as Apparmor and SELinux profiles, Seccomp policies, Chroots (pivot_root) and capabilities are used to lower privileges and restrict access.

Like LXC, LXD also uses components from the CRIU and QEMU projects. If LXC is a low-level toolkit for manipulation at the level of individual containers, then LXD provides tools for centralized management of containers deployed in a cluster of several servers. LXD is implemented as a background process that accepts requests over the network via a REST API and

supports various storage backends (directory tree, ZFS, Btrfs, LVM), state snapshots, live migration of running containers from one machine to another, and tools for storing images containers. LXCFS is used to simulate the /proc and /sys pseudo-FS containers, and the cgroupfs virtualized view to make the containers look like a normal independent system.

https://discuss.linuxcontainers.org/t/lxd-5-0-lts-has-been-released/13723

Qt 6.3 framework released:

12.04.2022

The Qt Company has published the Qt 6.3 framework, where work continues to stabilize and increase the functionality of the Qt 6 branch. Qt 6.3 provides support for Windows 10, macOS 10.14+, Linux (Ubuntu 20.04, CentOS 8.2, openSUSE 15.3, SUSE 15 SP2) platforms, iOS 13+, Android 6+ (API 23+), webOS, INTEGRITY and QNX. The source code for the Qt components is provided under the LGPLv3 and GPLv2 licenses.

https://www.qt.io/blog/qt-6.3-released

Progress in the development of open firmware for the Raspberry Pi:

13.04.2022

A bootable image for Raspberry Pi boards based on Debian GNU/Linux and supplied with a set of open firmware from the LibreRPi project is available for testing. The image is generated using the regular Debian 11 repositories for the armhf architecture and is distinguished by the delivery of the librepi-firmware package prepared based on the rpi-open-firmware firmware.

The state of firmware development has been brought to a level suitable for running the Xfce desktop. In its current form, the firmware provides the v3d driver for the VideoCore graphics accelerator, 2D acceleration, DPI video, NTSC video (composite

output), Ethernet, USB host, i2c host and SD cards on Raspberry Pi 2 and Raspberry Pi 3 boards. Not yet supported features include video decoding acceleration, CSI, SPI, ISP, PWM audio, DSI and HDMI.

Recall that despite the presence of open drivers, the operation of the VideoCore IV video accelerator is ensured by proprietary firmware loaded into the GPU, which contains quite extensive functionality, for example, support for OpenGL ES is implemented on the firmware side. In fact, on the GPU side, a semblance of an operating system is performed, and the work of open drivers is reduced to broadcasting calls to closed firmware. To get rid of the need to download blobs, since 2017, the community has been developing a project for a free version of the firmware, including components for execution on the VC4 GPU side.

https://github.com/librerpi

Plans for the next generation of SUSE Linux:

13.04.2022

Developers from SUSE shared the first plans for the development of a future major branch of the SUSE Linux Enterprise distribution, which is codenamed ALP (Adaptable Linux Platform). The new branch is planned to offer some radical changes, both in the distribution itself and in the methods of its development.

In particular, SUSE intends to move away from the closed-door development model of SUSE Linux in favor of an open development process. If earlier all development was carried out within the company and after the result was produced, now the processes of creating a distribution kit and its assembly will become public, which will allow interested parties to track the work being done and take part in the development.

The second major change will be the division of the distribution's core foundation into two parts: a stripped-down "host OS" to run on top of the hardware, and an application

support layer focused on running in containers and virtual machines. The idea is to develop in "host OS" the minimum environment necessary to support and manage hardware, and run all applications and user-space components not in a mixed environment, but in separate containers or virtual machines running on top of "host OS" and isolated from each other. Details are promised to be announced later, but during the discussion, the MicroOS project is mentioned, which develops a stripped-down version of the distribution using an atomic installation system and automatic application of updates.

https://lists.opensuse.org/archives/list/project@lists.opensuse.org/thread/N6TTE7ZBY7GFJ27XSDTXRF3MVLF6HW4W/

Release of Turnkey Linux 17:

13.04.2022

After almost two years of development, Turnkey Linux 17 is released, which develops a collection of 119 minimalist builds of Debian suitable for use in virtualization systems and cloud environments. From the collection, only two ready-made builds based on branch 17 are currently made - core (339 MB) with the base environment and tkldev (419 MB) with development tools and building mini-distributions. The remaining builds promise to be updated in the near future.

The idea of the distribution is to provide the user with the opportunity, immediately after installation, to get fully functional working environments with LAMP (Linux, Apache, MariaDB, PHP/Python/Perl), Ruby on Rails, Joomla, MediaWiki, Wordpress, Drupal, Apache Tomcat, LAPP, Django, MySQL, PostgreSQL, Node.js, Jenkins, Typo3, Plone, SugarCRM, punBB, OS Commerce, ownCloud, MongoDB, OpenLDAP, GitLab, CouchDB, etc.

The software is managed through a specially prepared web interface (Webmin, shellinabox and confconsole are used for configuration). Builds are equipped with an automatic backup system, tools for automatic installation of updates and a monitoring system. Both installation on metal and virtual

machines are supported. Basic setup, defining passwords and generating cryptographic keys is done during the first boot.

https://www.turnkeylinux.org/blog/v17.0-stable-core-and-tkldev

CENO 1.4.0 censorship-focused web browser available:

14.04.2022

The eQualite company has published CENO 1.4.0 mobile web browser, designed to get access to information in conditions of censorship, traffic filtering or disconnection of Internet segments from the global network. Firefox for Android (Mozilla Fennec) is used as the base. The functionality associated with building a decentralized network has been moved to a separate Ouinet library, which can be used to add censorship circumvention tools to arbitrary applications. Project code is distributed under the MIT license. Ready builds are available on Google Play.

The CENO browser and the Ouinet library allow you to access information in conditions of active blocking of proxy servers, VPNs, gateways and other centralized mechanisms for bypassing traffic filtering, up to the complete shutdown of the Internet in censored areas (with complete blocking, content can be distributed from the cache or local drives). For data exchange, a P2P network is created, in which users participate in redirecting traffic to external gateways (injectors), which provide access to information bypassing filters.

The project also provides for content caching on the side of each user, maintaining a decentralized cache of popular content. When a user opens a site, the downloaded content is cached on the user's system and becomes available to P2P network members who cannot directly access the resource or gateways to bypass blocking. Each device stores only the data directly requested from that device. Pages in the cache are identified using a hash of the URL, with all additional data associated with the page, such as images, scripts, and styles, grouped and returned together by one identifier.

https://github.com/censorship-no/ceno-browser/releases/tag/v1.4.0

Fedora plans to replace DNF package manager with Microdnf:

15.04.2022

The developers of Fedora Linux intend to migrate the distribution to the new Microdnf package manager instead of the currently used DNF. The first step on the road to migration will be a major update to Microdnf, planned for Fedora Linux 38, that will come close in functionality to DNF, and even surpass it in some areas. It is noted that the new version of Microdnf will support all the main features of DNF, but at the same time retain high performance and compactness.

The key difference between Microdnf and DNF is the use of C instead of Python for development, which allows you to get rid of a large number of dependencies. At one time, DNF replaced Yum, which was written entirely in Python, and in DNF, performance-demanding low-level functions were rewritten and moved into separate hawkey, librepo, libsolv, and libcomps C libraries, but the framework and high-level components remained in Python. Microdnf was originally developed as a stripped down version of DNF for use in Docker containers that did not require Python to be installed. Now the Fedora developers plan to bring Microdnf to the level of DNF functionality and eventually completely replace DNF with Microdnf.

Microdnf is based on the libdnf5 library, developed as part of the DNF 5 project. DNF 5 is aimed at unifying existing low-level libraries, rewriting the package management operations remaining in Python in C++, and moving the basic functionality into a separate library with the creation of a binding around this library to preserve the Python API.

The new version of Microdnf will also use the DNF Daemon background process, replacing the PackageKit functionality and providing an interface for managing packages and updates in

graphical environments. Unlike PackageKit, DNF Daemon will only support the RPM format.

https://lists.fedoraproject.org/archives/list/devel@lists.fedoraproject.org/thread/JIRMSN6FKBAQQMHXYCWJZM4RG4T7N4K2/

Release of Neovim 0.7.0, a modernized version of the Vim editor:

15.04.2022

Neovim 0.7.0 is out, a fork of the Vim editor focused on increasing extensibility and flexibility. The project has been reworking the Vim codebase for more than seven years, as a result of which changes are made that simplify code maintenance, provide a means of dividing labor between several maintainers, separate the interface from the base part (the interface can be changed without touching the internals), and implement a new extensible architecture based on plugins. The original code of the project is distributed under the Apache 2.0 license, and the base part is licensed under the Vim license. Ready builds are prepared for Linux (appimage), Windows and macOS.

The new version offers initial support for remote work, allowing you to run Neovim on a server and connect to it from a client system using a separate ui client. Other changes include: Python 2 support has been discontinued, Lua functions in keymap are allowed, new commands have been added to the API, the ability to use the Lua language for plugin development and configuration management has been significantly expanded, tools for diagnosing problems in the code have been improved, support for the global status bar has been added, performance optimizations have been made. The capabilities of the built-in LSP client (Language Server Protocol) have been extended, which can be used to move the analysis logic and code completion to external servers.

https://github.com/neovim/neovim/releases/tag/v0.7.0

Release of the GNU Coreutils 9.1 set of core system utilities:

16.04.2022

A stable version of the GNU Coreutils 9.1 set of basic system utilities is available , which includes programs such as sort, cat, chmod, chown, chroot, cp, date, dd, echo, hostname, id, ln, ls, etc.

https://savannah.gnu.org/forum/forum.php?forum_id=10158

LXQt 1.1 User Environment Released:

16.04.2022

After six months of development, the release of the user environment LXQt 1.1 (Qt Lightweight Desktop Environment), developed by the joint team of developers of the LXDE and Razor-qt projects, has happened. The LXQt interface continues to follow the classic desktop layout with a modern look and feel that enhances the user experience. LXQt is positioned as a lightweight, modular, fast and convenient continuation of the development of the Razor-qt and LXDE desktops, incorporating the best features of both shells. The code is hosted on GitHub and is licensed under GPL 2.0+ and LGPL 2.1+. Ready builds are expected for Ubuntu (LXQt is offered by default in Lubuntu), Arch Linux , Fedora , openSUSE , Mageia , FreeBSD , ROSA and ALT Linux.

https://lxqt-project.org/release/2022/04/15/lxqt-1-1-0/\

Rsync 3.2.4 Released:

17.04.2022

After a year and a half of development, the release of Rsync 3.2.4 is available, a file synchronization and backup utility that allows you to minimize traffic by incrementally copying

changes. The transport can be ssh, rsh, or the native rsync protocol. Anonymous rsync servers are supported, which are optimally suited for ensuring the synchronization of mirrors. The project code is distributed under the GPLv3 license.

https://lists.samba.org/archive/rsync-announce/2022/000110.html

Celestial shuns snaps:

18.04.2022

A beta release of the CelOS (Celestial OS) distribution has been introduced, which is a rebuild of Ubuntu 22.04, in which the Snap package management tool is replaced with Flatpak. Instead of installing additional applications from the Snap Store catalog, integration with the Flathub catalog is proposed. The size of the installation image is 3.7 GB. The project is distributed under the GPLv3 license.

The assembly includes a selection of GNOME applications distributed in the Flatpak format, as well as the ability to quickly install additional programs from the Flathub catalog. As a user interface, the usual GNOME with the Adwaita skin is proposed,as it is being developed by the main project, without using the Yaru skin that is offered in Ubuntu. The regular Ubiquity is used as an installer.

The differences between Flatpak and Snap come down to the fact that Snap offers a small base runtime stuffed with a container based on monolithic Ubuntu Core releases, while Flatpak, in addition to the main runtime, uses additional and separately updated runtime layers (bundle) with typical sets of dependencies for applications to work. Thus, Snap transfers most of the application libraries to the side of packages (recently it has been possible to move large libraries, such as GNOME and GTK libraries, to common packages), and Flatpak offers bundles of libraries common to different packages (for example, libraries have been moved to bundle required to run GNOME or KDE programs) to make packages more compact.

Flatpak packages use an image based on the OCI (Open Container Initiative) specification, while Snap uses SquashFS image mounting. For isolation, Flatpak uses the Bubblewrap layer (uses cgroups, namespaces (namespaces), Seccomp and SELinux), and to organize access to resources outside the container, the portal mechanism. Snap uses cgroups, namespaces, Seccomp, and AppArmor for isolation, and pluggable interfaces for interacting with the outside world and other packages. Snap is developed under the full control of Canonical and is not controlled by the community, while the Flatpak project is independent, provides better integration with GNOME and is not tied to a single repository.

https://www.reddit.com/r/Ubuntu/comments/u4jqt5/ubuntu_with_flatpaks_without_the_snaps_celestial/

The SDL developers have canceled the default Wayland switch in the 2.0.22 release:

18.04.2022

In the codebase of the SDL (Simple DirectMedia Layer) library, a previously accepted change has been canceled, which by default activates work based on the Wayland protocol in environments that provide simultaneous support for Wayland and X11. Thus, in release 2.0.22, as before, in Wayland environments with an XWayland component, output using the X11 protocol - will be used by default.

It is noted that the SDL code associated with Wayland support is stable, but some problems remain unresolved in third-party applications. For example, there are regressions in games and problems when using NVIDIA drivers, event handling in libwayland, loading plugins in libdecor, and the operation of the Steam application.

After assessing the current situation, the developers decided not to rush and not include Wayland by default in the SDL 2.0.22 release. For those who want to use Wayland, they can set the environment variable "SDL_VIDEODRIVER = wayland" before starting the application, or add the function

'SDL_SetHint(SDL_HINT_VIDEODRIVER, "wayland,x11")' to the code before calling SDL_Init():

https://discourse.libsdl.org/t/sdl-revert-video-prefer-wayland-over-x11/35376

New versions of Box86 and Box64 emulators that allow you to run x86 games on ARM systems:

18.04.2022

Releases of Box86 0.2.6 and Box64 0.1.8 emulators are out. Projects are developed in sync by the same development team - Box86 is limited to running 32-bit x86 applications, while Box64 provides for running 64-bit executables. The project pays great attention to the launch of gaming applications, including the ability to launch Windows builds through wine and Proton. The source code of the project is written in C and distributed under the MIT license.

A feature of the project is the use of a hybrid execution model, in which emulation is applied only to the machine code of the application itself and specific libraries. Generic system libraries, including libc, libm, GTK, SDL, Vulkan, and OpenGL, are replaced with variants native to the target platforms. Thus, library calls are executed without emulation, which allows for a significant performance increase.

In performance tests, when running on the Armhf and Aarch64 platforms, the Box86 and Box64 emulators significantly outperformed the QEMU and FEX-emu projects, and in some tests (glmark2, openarena) they achieved performance identical to running an assembly native to the target platform. In the compute-intensive 7-zip and dav1d benchmarks, Box64's performance was between 27% and 53% of that of the native application (compared to QEMU at 5-16% and FEX-emu at 13-26%). Additionally, a comparison was made with the Rosetta 2 emulator used by Apple to run x86 code on systems with an ARM M1 chip. Rosetta 2 ran the 7zip-based benchmark at 71% of the native build, while Box64 did 57%

https://github.com/ptitSeb/box64 https://github.com/ptitSeb/box86

Release of the QEMU 7.0 emulator:

20.04.2022

QEMU 7.0 is out. As an emulator, QEMU allows you to run a program built for one hardware platform on a system with a completely different architecture, for example, run an ARM application on an x86-compatible PC. In the virtualization mode in QEMU, the performance of code execution in an isolated environment is close to a hardware system due to the direct execution of instructions on the CPU and the use of the Xen hypervisor or KVM module.

The project was originally created by Fabrice Bellard to allow Linux executables built for the x86 platform to run on non-x86 architectures. Over the years of development, full emulation support has been added for 14 hardware architectures, the number of emulated hardware devices has exceeded 400. In preparation for version 7.0, more than 2500 changes have been made from 225 developers.

https://lists.nongnu.org/archive/html/qemu-devel/2022-04/msg02245.html

PPA proposed for Ubuntu to improve Wayland support in Qt:

19.04.2022

For the Ubuntu 22.04 distribution, a PPA repository has been prepared with the qtwayland package, in which fixes related to improved support for the Wayland protocol have been moved from the Qt 5.15.3 branch , maintained by the KDE project. Including the package includes changes that are necessary for the correct operation of qtwayland on systems with proprietary NVIDIA drivers. Additionally, the intention to add the proposed package to Debian has been announced (merge request has already been prepared), after which this package can be

officially transferred to the main Ubuntu and derivative distributions.

https://launchpad.net/~ci-train-ppa-service/+archive/ubuntu/4829

Movement to include proprietary firmware in the Debian distribution:

19.04.2022

Steve McIntyre, a Debian project leader for several years, has taken the initiative to rethink Debian's attitude towards shipping proprietary firmware, which is currently not included in official install images and is provided in a separate non-free repository. In Steve's opinion, trying to achieve the ideal of only delivering open source software causes unnecessary grief for users, who in many cases have to install proprietary firmware if they want to get their hardware to work properly.

Proprietary firmware is placed in a separate non-free repository, along with other packages distributed under non-free and open licenses. The non-free repository is not officially part of the Debian project and packages from it cannot be included in installation and live builds. Because of this, installation images with proprietary firmware are built separately and categorized as unofficial, although they are formally developed and maintained by the Debian project.

Debian's approach creates many problems, including inconvenience to users and waste of resources in building, testing, and hosting unofficial builds with closed firmware. The project presents official images as the main recommended builds, but only confuses these users, as they encounter hardware support problems during the installation process. The use of unofficial builds unwittingly leads to the popularization of non-free software, since the user, along with the firmware, also receives a connected non-free repository with other non-free software, while if the firmware were offered separately, it would be possible to do without including the non-free repository.

https://blog.einval.com/2022/04/19

Git 2.36 source control released:

19.04.2022

After three months of development, the release of the distributed source control system Git 2.36 has been published. Git is one of the most popular, reliable, and high-performance version control systems that provides flexible non-linear development tools based on branching and merging branches. To ensure the integrity of the history and resistance to changes "backdating" implicit hashing of the entire previous history in each commit is used, it is also possible to verify the digital signatures of the developers of individual tags and commits.

Compared to the previous release, 717 changes were accepted into the new version, prepared with the participation of 96 developers, of which 26 took part in the development for the first time.

https://lore.kernel.org/all/xmqqh76qz791.fsf@gitster.g/

oVirt 4.5.0 Virtualization Infrastructure Management System Release:

21.04.2022

The release of oVirt 4.5.0, based on the KVM hypervisor and the libvirt library, is a platform for deploying, maintaining and monitoring virtual machines and managing cloud infrastructure, was announced. The virtual machine management technologies developed in oVirt are used in the Red Hat Enterprise Virtualization product and can act as an open alternative to VMware vSphere. In addition to Red Hat, Canonical, Cisco, IBM, Intel, NetApp and SUSE also took part in the development. The project code is distributed under the GPLv2 license. Ready packages are available for CentOS Stream 8 and Red Hat Enterprise Linux 8.6 Beta. A ready-to-deploy iso image of oVirt Node NG based on CentOS Stream 8 is also available.

oVirt is a stack that covers all levels of virtualization - from the hypervisor to the API and GUI. Despite the fact that KVM is positioned as the main hypervisor in oVirt, the interface is implemented as an add-on to the libvirt library, which is abstracted from the hypervisor type and is suitable for managing virtual machines based on various virtualization systems, including Xen and VirtualBox. As part of oVirt, an interface is being developed for the rapid mass creation of highly available virtual machines with support for live migration of environments between servers without stopping work.

The platform provides tools for creating dynamic balancing rules and managing cluster resources, cluster power management mechanisms, virtual machine image management tools, and components for converting and importing existing virtual machines. A single virtual data store is supported, accessible from any node. The interface contains an advanced reporting system and administration tools that allow you to manage the configuration both at the infrastructure level and at the level of individual virtual machines.

https://blogs.ovirt.org/2022/04/ovirt-4-5-0-is-now-generally-available/

New versions of OpenWrt 21.02.3 and 19.07.10:

21.04.2022

Updates of the OpenWrt distribution kit 19.07.10 and 21.02.3 have been published, focused on various network devices such as routers, switches and access points. OpenWrt supports many different platforms and architectures and has a build system that allows you to easily and conveniently perform cross-compilation, including various components in the assembly, which makes it easy to create a ready-made firmware adapted to specific tasks or a disk image with the desired set of pre-installed packages. Builds are generated for 36 target platforms. The release of OpenWrt 19.07.10 is marked as the last in the 19.07 branch, which has expired.

https://lists.infradead.org/pipermail/openwrt-devel/2022-April/038491.html

Ubuntu 22.04 LTS distribution release:

21.04.2022

The Ubuntu 22.04 "Jammy Jellyfish" distribution has been released and is categorized as a Long Term Support (LTS) release with updates for 5 years, in this case until April 2027. Install and boot images are made for Ubuntu, Ubuntu Server , Lubuntu , Kubuntu , Ubuntu Mate , Ubuntu Budgie , Ubuntu Studio , Xubuntu and UbuntuKylin.

Main changes :

Desktop updated to GNOME 42 release, in which settings for the dark interface design common to the entire environment were added and GNOME Shell and performance was optimized. When you press the PrintScreen button, you can create a screencast or screenshot of a selected part of the screen or a separate window. To preserve the integrity of the design and stability of the user environment in Ubuntu 22.04, versions of some applications from the GNOME 41 branch were left (mainly we are talking about applications translated in GNOME 42 to GTK 4 and libadwaita). Most configurations default to a desktop session based on the Wayland protocol, but provide an option to fall back to using an X server at login. The use of the X server is also left by default for systems with proprietary NVIDIA drivers.

They offer 10 colour options in dark and light styles. Desktop icons have been moved to the lower right corner of the screen by default (this behavior can be changed in the appearance settings). In the Yaru theme, all buttons, sliders, widgets, and toggles use orange instead of eggplant. A similar replacement is made in the icon set. They also changed the colour of the active window close button from orange to gray, and the color of slider handles from light gray to white.

New settings have been added to control the appearance and

behavior of the Dock. Improved integration with the file manager panel and device widgets. Screens for displaying confidential information are supported, for example, some laptops are equipped with screens with a built-in confidential viewing mode, which makes it difficult to view from outside. The ability to use the RDP protocol for organizing desktop sharing is provided (VNC support is saved as an option included in the configurator). The Firefox browser is now only available in Snap format. The firefox and firefox-locale deb packages are replacements for stubs that install a Snap package with Firefox. For users of the deb package, there is a transparent process for migrating to snap by publishing an update that will install the snap package and transfer the current settings from the user's home directory.

To increase security, the os-prober utility is disabled by default, which finds boot partitions of other OSes and adds them to the boot menu. They recommend you use the UEFI bootloader to boot alternative operating systems. To return automatic detection of third-party OSes in /etc/default/grub, you can change the GRUB_DISABLE_OS_PROBER setting and run the "sudo update-grub" command.

Disabled access to NFS partitions using the UDP protocol (the kernel was compiled with the CONFIG_NFS_DISABLE_UDP_SUPPORT=y option). NVIDIA proprietary drivers have been added to ARM64 architecture builds in the linux-restricted-modules set (previously shipped only for x86_64 systems). To install and configure NVIDIA drivers, you can use the standard ubuntu-drivers utility.

Linux kernel 5.15 is used as the primary one, but Ubuntu Desktop on some tested devices (linux-oem-22.04) will provide a 5.17 kernel. Additionally, for x86_64 and ARM64 architectures, a beta release of a package with a kernel is proposed for testing, which includes PREEMPT_RT patches and is oriented to use in real-time systems.

The systemd system manager has been updated to version 249. For early response to low memory, Ubuntu Desktop uses the systemd-oomd mechanism by default, which is based on the PSI

(Pressure Stall Information) kernel subsystem, which allows user-space analysis of information about the waiting time for obtaining various resources (CPU, memory, I/O) to accurately assess the level of system load and the nature of the slowdown. You can use the oomctl utility to check the status of OOMD. Updated developer tools: GCC 11.2, LLVM 14, glibc 2.35, Python 3.10.4, Ruby 3.0, PHP 8.1.2, Perl 5.34, Go 1.18, Rust 1.58, OpenJDK 18 (OpenJDK 11 also ships), PostgreSQL 14, MySQL 8.0.28.

Updated LibreOffice 7.3, Firefox 99, Thunderbird 91, Mesa 22, BlueZ 5.63, CUPS 2.4, NetworkManager 1.36, Poppler 22.02, Chrony 4.2, PulseAudio 16, xdg-desktop-portal 1.14, samba 4.15.5, Apache httpd 2.4.52, containerd 1.5.9, runc 1.1.0, QEMU 6.2, libvirt 8.0.0, virt-manager 4.0, openvswitch 2.17, LXD 5.0. Migration to new significant branches OpenLDAP 2.5, BIND 9.18 and OpenSSL 3.0.

The main repository for Ubuntu Server includes the wireguard and glusterfs packages.

Includes the FRRouting routing protocol stack (BGP4, MP-BGP, OSPFv2, OSPFv3, RIPv1, RIPv2, RIPng, PIM-SM/MSDP, LDP, IS-IS), which has replaced the previously used Quagga package (FRRouting is a fork of Quagga so compatibility is not affected).

By default, the nftables packet filter is enabled. To maintain backward compatibility, the iptables-nft package is available, which provides utilities with the same command line syntax as in iptables, but translates the resulting rules into nf_tables bytecode.

OpenSSH does not support digital signatures based on RSA keys with a SHA-1 hash ("ssh-rsa") by default. They added "-s" option to scp utility to work over SFTP protocol.

Ubuntu Server builds for IBM POWER systems (ppc64el) have dropped support for Power8 processors, builds are now built for Power9 CPUs ("--with-cpu=power9").

RISC-V architecture live medium, is provided.

Ubuntu 22.04 was the first LTS release with official builds for Raspberry Pi boards. They added support for Pimoroni Unicorn HAT LED matrix and DSI touch screens. Added rpiboot utility for Raspberry Pi Compute boards. For MicroPython-enabled microcontrollers, such as the Raspberry Pi Pico, the rshell utility (package pyboard-rshell) has been added. The imager utility (package rpi-imager) has been added to pre-configure the boot image.

Kubuntu offers the KDE Plasma 5.24.3 desktop and the KDE Gear 21.12.3 application suite.

Xubuntu continues to ship the Xfce 4.16 desktop. The Greybird theme set has been updated to version 3.23.1 with support for GTK 4 and libhandy, which improved the unification of GNOME and GTK4 applications with the common Xubuntu style. The elementary-xfce 0.16 set has been updated with many new icons. Used text editor Mousepad 0.5.8 with support for saving sessions and plug-ins. Improved thumbnails in Ristretto 0.12.2 image viewer.

In Ubuntu MATE , the MATE desktop has been updated to patch release 1.26.1. Styling has been moved to a variant of the Yaru theme (used in Ubuntu Desktop), adapted to work in MATE. The main cast includes the new GNOME Clocks, Maps and Weather applications. Updated set of indicators for the panel. By removing proprietary NVIDIA drivers (now downloaded separately), eliminating duplicate icons and removing old skins, the size of the installation image has been reduced to 2.8 GB (it was 4.1 GB before cleaning).

Ubuntu Budgie features the new Budgie 10.6 desktop release with updated applets.

Updated Ubuntu Studio ships versions of Blender 3.0.1, KDEnlive 21.12.3, Krita 5.0.2, Gimp 2.10.24, Ardour 6.9, Scribus 1.5.7, Darktable 3.6.0, Inkscape 1.1.2, Carla 2.4.2, Studio Controls 2.3.0, OBS Studio 27.2.3, MyPaint 2.0.1.

Lubuntu builds continue to ship the LXQt 0.17 graphical environment.

Additionally, two unofficial editions of Ubuntu 22.04 are released - Ubuntu Cinnamon Remix 22.04 (iso images) with the Cinnamon desktop and Ubuntu Unity 22.04 (iso images) with the Unity7 desktop.

https://discourse.ubuntu.com/t/jammy-jellyfish-release-notes/24668

Valve has released Proton 7.0-2, for running Windows games on Linux:

21.04.2022

Valve has published the release of the Proton 7.0-2 project, which is based on the Wine project codebase and aims to run on Linux gaming applications created for Windows and presented in the Steam catalog. The developments of the project are distributed under the BSD license.

Proton allows you to directly run Windows-only gaming applications on the Steam Linux client. The package includes implementation of DirectX 9/10/11 (based on DXVK package) and DirectX 12 (based on vkd3d-proton) working through DirectX call translation to the Vulkan API, provides improved support for game controllers and the ability to use full screen mode regardless of supported screen resolution in games. To increase the performance of multi-threaded games, " esync " (Eventfd Synchronization) and " futex/fsync " mechanisms are supported.

https://github.com/ValveSoftware/Proton/releases/tag/proton-7.0-2

Release of OpenBSD 7.1:

22.04.2022

The release of the free cross-platform UNIX-like operating

system OpenBSD 7.1 is introduced. The OpenBSD project was founded by Theo de Raadt in 1995 after a conflict with the NetBSD developers that denied Theo access to the NetBSD CVS repository. After that, Theo de Raadt and a group of like-minded people created a new open operating system based on the NetBSD source tree, the main development goals were portability (13 hardware platforms are supported), standardization, correct operation, proactive security and integrated cryptographic tools. The size of the full installation ISO image of the base OpenBSD 7.1 system is 580 MB.

In addition to the operating system itself, the OpenBSD project is known for its components, which have become widespread in other systems and have proven to be one of the most secure and high-quality solutions. Among them: LibreSSL (OpenSSL fork), OpenSSH , PF packet filter , OpenBGPD and OpenOSPFD routing daemons, OpenNTPD NTP server , OpenSMTPD mail server , text terminal multiplexer (similar to GNU screen) tmux , identd daemon with IDENT protocol implementation, BSDL alternative the GNU groff package - mandoc, a protocol for organizing fault-tolerant systems CARP (Common Address Redundancy Protocol), a lightweight http server , a file synchronization utility OpenRSYNC.

https://www.mail-archive.com/announce@openbsd.org/msg00429.html

Summary of results of the election of the leader of the Debian project:

22.04.2022

The results of the annual Debian project leader election have been announced. 354 developers took part in the voting, which is 34% of all participants with the right to vote (last year turnout was 44%, the year before 33%). This year, three candidates for the post of leader took part in the elections. It was won by Jonathan Carter, who was re-elected for a third term.

Jonathan has been maintaining more than 60 Debian packages

since 2016, contributing to the quality of live images on the debian-live team, and is one of the developers of AIMS Desktop , a build of Debian used by a number of South African academic and educational institutions.

Felix Lechner and Hideki Yamane also claimed leadership. Felix develops the Lintian package inspection system , is a member of the Golang, Perl and VOIP teams, maintains 16 packages. Hideki has been a Debian developer since 2010, translating Japanese and maintaining about 200 packages , mostly related to fonts and the Ruby language.

https://lists.debian.org/debian-devel-announce/2022/04/msg00007.html

New release of the Silero speech synthesis system:

22.04.2022

A new public release of the Silero Text-to-Speech neural network speech synthesis system is available. The project is primarily aimed at creating a modern high-quality speech synthesis system that is not inferior to commercial solutions from corporations and is available to everyone without the use of expensive server equipment.

The models are distributed under the GNU AGPL license, but the company developing the project does not disclose the mechanism for training models. To launch, you can use PyTorch and frameworks that support the ONNX format. Speech synthesis in Silero is based on the use of deeply modified modern neural network algorithms and digital signal processing methods.

It is noted that the main problem of modern neural network solutions for speech synthesis is that they are often available only as part of paid cloud solutions, and public products have high hardware requirements, lower quality or are not finished and ready-to-use products. For example, to seamlessly run one of the new popular end-to-end synthesis architectures, VITS, in synthesis mode (that is, not for model training), video cards

with more than 16 gigabytes of VRAM are required.

Contrary to the current trend, Silero solutions run successfully even on 1 x86 thread of an Intel processor with AVX2 instructions. On 4 processor threads, synthesis allows you to synthesize from 30 to 60 seconds per second in 8 kHz synthesis mode, in 24 kHz mode - 15-20 seconds, and in 48 kHz mode - about 10 seconds.

https://github.com/snakers4/silero-models#text-to-speech

Release of KDE Gear 22.04:

22.04.2022

The April 22.04 summary update of the applications developed by the KDE project has been released. As a reminder, from April 2021, the consolidated set of KDE applications is published under the name KDE Gear, instead of KDE Apps and KDE Applications. In total, releases of 232 programs, libraries and plug-ins were published as part of the update. Information about the availability of live builds with new releases of applications can be found on this page: *https://community.kde.org/Plasma/LiveImages*

https://kde.org/info/releases-22.04.0.php

ubuntu uk podcast

The Ubuntu Podcast covers all the latest news and issues facing Ubuntu Linux users and Free Software fans in general. The show appeals to the newest user and the oldest coder. Our discussions cover the development of Ubuntu but aren't overly technical. We are lucky enough to have some great guests on the show, telling us first hand about the latest exciting developments they are working on, in a way that we can all understand! We also talk about the Ubuntu community and what it gets up to.

The show is presented by members of the UK's Ubuntu Linux community. Because it is covered by the Ubuntu Code of Conduct it is suitable for all. The show is broadcast live every fortnight on a Tuesday evening (British time) and is available for download the following day. podcast.ubuntu-uk.org

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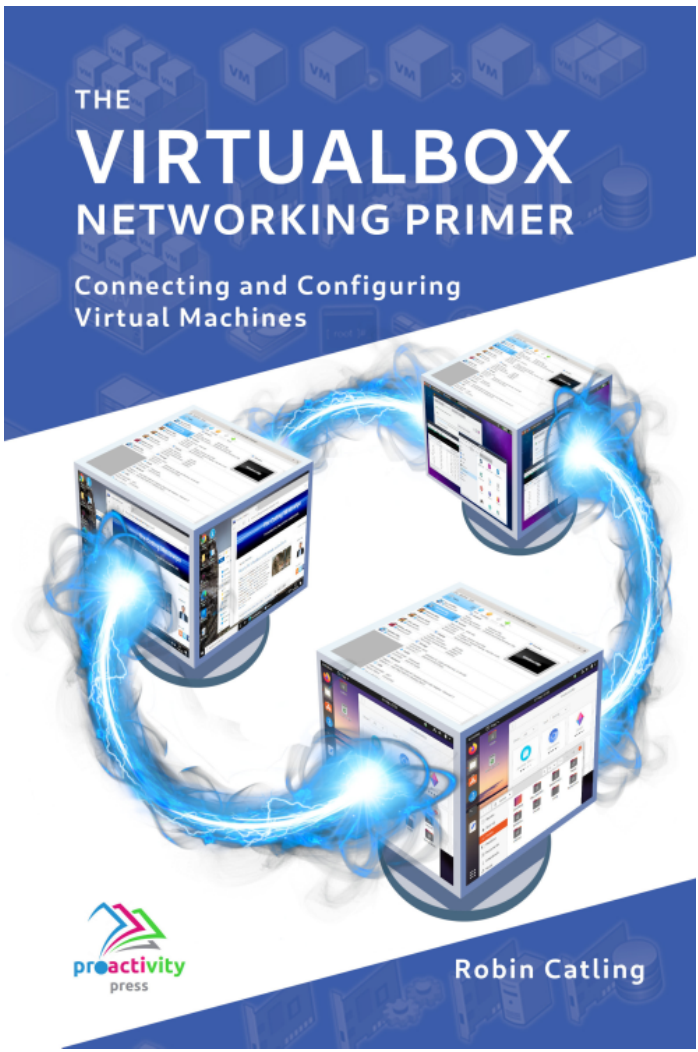
The VirtualBox Networking Primer

Connecting and Configuring Virtual Machines



The VirtualBox Networking Primer is a no-nonsense guide for

the VirtualBox user taking their next steps into virtual networks. While Oracle VM VirtualBox is a great free tool, the real power of virtualisation comes when you start connecting virtual machines to each other and to the wider world. Software development, sales, education and training are just some of the areas in which network access to virtual machines offers endless opportunities. But the world of computer networks is filled with complex technical jargon.

Complete with principles, practice, examples and glossary, The VirtualBox Networking Primer takes the frustration and confusion out of connecting real-world projects.

Author: **Robin Catling**
Publisher: Proactivity Press
ISBN13 : 9781916119482

Amazon US link:
https://www.amazon.com/dp/1916119484?ref_=pe_3052080_397514860

Amazon UK link:
https://www.amazon.co.uk/VirtualBox-Networking-Primer-Connecting-Configuring/dp/1916119484/ref=sr_1_1?dchild=1&keywords=virtualbox+networking+primer&qid=1600253699&s=books&sr=1-1

Kobo:
https://www.kobo.com/us/en/ebook/the-virtualbox-networking-primer

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Command & Conquer

Written by Erik

BACK NEXT MONTH

Erik has been in IT for 30+ years. He has seen technology come and go. From repairing washing machine sized hard drives with multimeters and oscilloscopes, laying cable, to scaling 3G towers, he's done it.

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How To - Python in the REAL World - Part 128

Written by Greg W. Walters

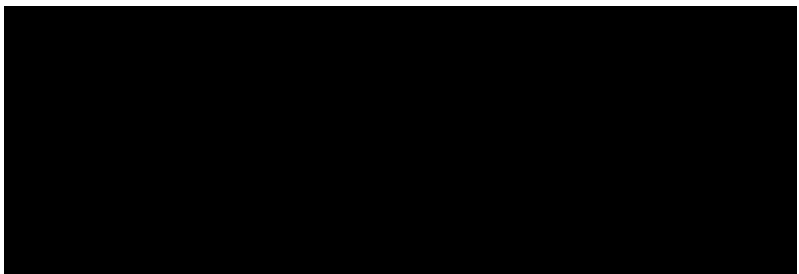
A few weeks ago, I was chatting with a new user on the PAGE Discord forum, comparing our careers in programming and how things had changed. I told him how, back in the late 1980s, I worked on a project to create windows and forms for Turbo Pascal and Modula-2. Back then, everything was pretty much done in 80x24 character terminals.

Today, the word “TUI” is very popular and means “Textual User Interface”, and there are many popular Python libraries to make things easier to “Pretty up” the console applications. Most of them use the curses Python library in one form or fashion. I looked at many of the available packages and while most of them did a good job, they were very complicated, and, if I’m completely honest, way more flash than substance.

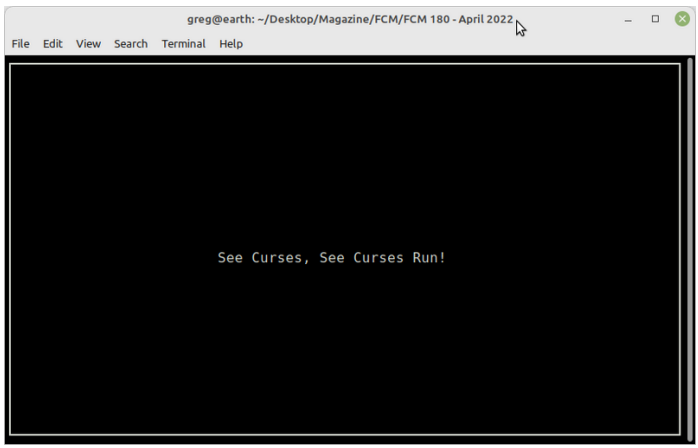
I went back through the articles that I wrote in the past and found the two articles that I wrote for Full Circle back in 2010 on Curses, so I thought I’d revisit them. Back to Curses

Python for Windows doesn’t include the curses module, but there are libraries that can basically do the same thing. Since we are Linux based here, we don’t have to worry. So let’s get started.

The initial demo program I wrote is still a good starting point for “modern” discussions of curses. Let’s take a quick look at the code.



You can see that there are almost as many commented lines as there are actual lines of code. When we run this code we see the following.



Pretty boring but there are important concepts presented here.

To use curses, you must first import the library, then you need to create a virtual screen.

Next, we draw a border around the screen and add a line of text starting at row 12, column 25. The refresh() method actually shows what has been done to the screen. To see the new TUI screen, you MUST call the refresh() method.

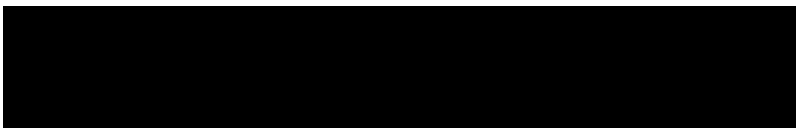
The program then waits for the user to press a key (any key in this case), then we reset the terminal back to the way it was before we started by calling the endwin() method.

Nothing big, nothing special. Just a quick and dirty demo. So let's try to do something better.

This time, we'll create a demo program showing how to centre a line in the terminal and show all of the various attributes that can be set to provide different effects. First off, we need to import the curses library.

Next, we'll create a function that will determine the length of a string and return a value for the horizontal position (x position) so the string will be centered in the terminal window.

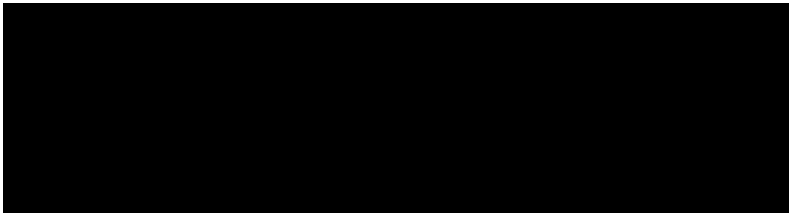
Now we can get curses initialized and get the number of rows and columns of the terminal. This allows us to use the program in any size terminal that you can use. Notice the line right after the initscr() line. This allows us to use colors in our strings. If you don't set this, colors won't work, and all the documentation on curses says that this call should be made "as soon after the initialization as possible". We also get the number of rows and columns and place them into global variables so we can use the num_cols variable in the centre function.



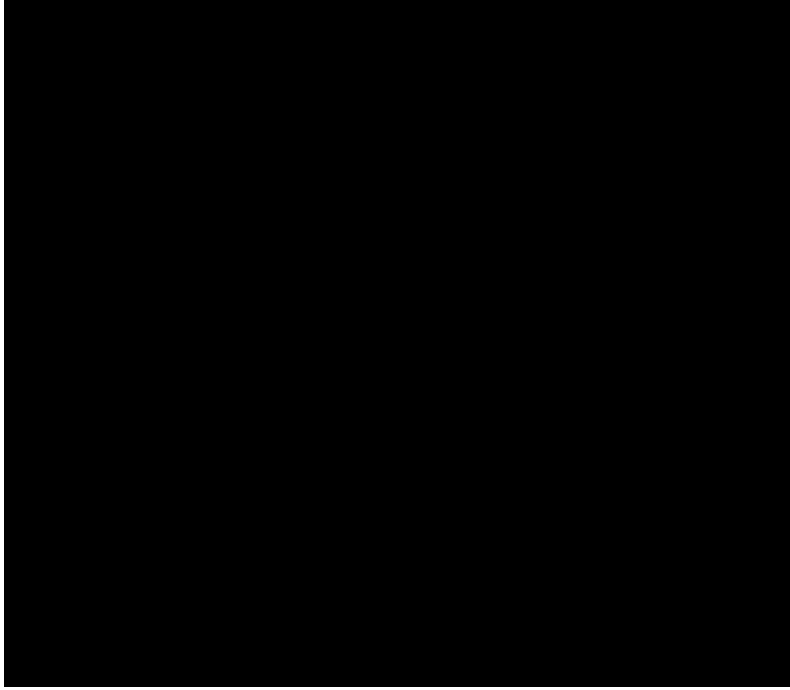
Now, here is the catch when using colors. Curses wants you to set up a foreground/background pair and assign it a number, rather than define it on the fly. This requires you to remember which number has the combination you want when you need to use it. That's a bit of a pain, but that's how it is.

At this point, we can start placing our text within the screen object. Since we are going to centre these strings, it makes it easier to create the string, then pass it to the centre function to get the x (column) position and then use it in the addstr method. Notice that if you want to use some of the special attributes like bold or underline, you can use the bitwise OR pipe character to add them at the end of the addstr command.

The next thing, we'll demonstrate each of the various attributes you can set for a display string.



=======



One of the last things we need to do is to prompt the user to press a key to end the demo, so we centre the string and place it near the bottom of the screen and make it blink.

Finally, we use the getch() function to wait with a blocking call until any keyboard character is pressed. Notice we don't have to put a specific location for the cursor, since curses remembers the last position that was used, which is when we print the "Press a key to end demo…" line. Once the user presses a key, we release the terminal screen.

I have run out of time for this edition of 'Python in the REAL world'. Ronnie was kind enough to give me extra time to get this done, since I have been having some more health issues. I wasn't able to create the MicroThisMicroThat article for this

month, so please forgive me. I hope I can get it finished for next month's issue.

The code for the two demos will be on my repository at *https://github.com/gregwa1953/FCM-180*

Until next time, as always; stay safe, healthy, positive and creative!

Greg Walters is a retired programmer living in Central Texas, USA. He has been a programmer since 1972 and in his spare time, he is an author, amateur photographer, luthier, fair musician and a pretty darn good cook. He still is the owner of RainyDaySolutions a consulting company and he spends most of his time writing articles for FCM and tutorials. His website is www.thedesignatedgeek.xyz .

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How-To - Blender part 5

Written by Erik

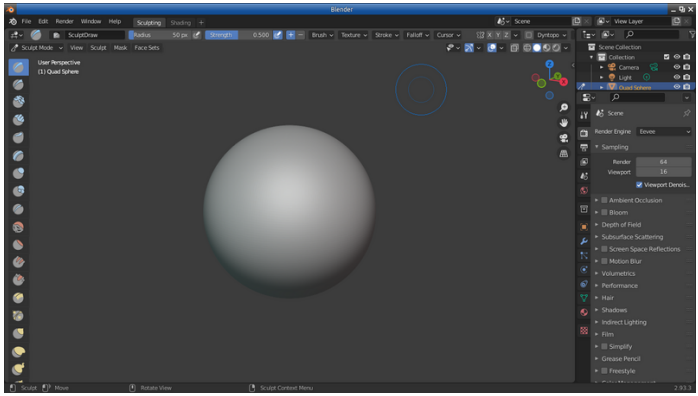
Website: blender.org

Price: Free

Whilst preparing this tutorial series. Blender has gone to a new LTS version. I will be using Blender 2.93 LTS going forward. Our focus is still on newbies to Blender, and maybe those who want to expand their use of their Ubuntu system into new areas. Thank you to Javier Samudio (@JavierSam) for his help with this series. You can find him at: *javiersam@blogspot.com*

Since we are working in Ubuntu Linux, our project will be a penguin. We will be making some common mistakes for you to make as well. Please follow along, just reading and looking at the pretty pictures will not grant you a skill.

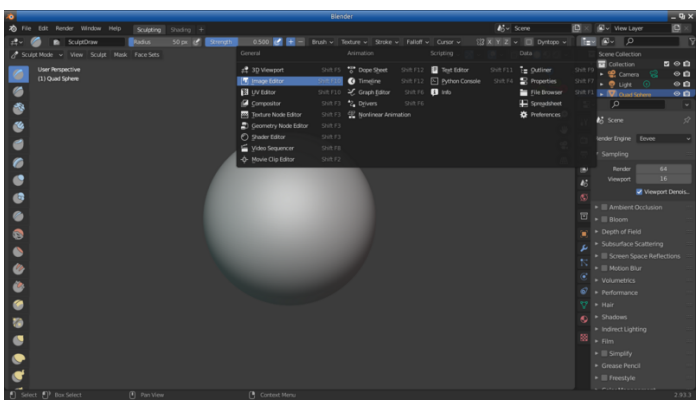
Fire up Blender and let's start! Now, the way we showed you last issue is not the only way to do things. There are more. I need you to select "object mode" and change it to "sculpt mode" in the top-left of your display. You will now see that the icons along the left-hand side have changed to blue, red, and yellow blobs. The method to the madness is that blue represents additive editing, red represents subtractive editing, and yellow represents transformation. Hover over each one to get a 'tooltip'.



Sculpt mode immediately ‘feels’ different, but the operation is the same. (Mostly). So obviously we need to use the yellow tools to get a pear-shape or egg-shape for our penguin base (body). (The details I leave to you, I just want you to use the program to see how awesome open source software can be!). The three tools that seem to fit the bill identify themselves as the “grab”, “elastic deform”, and “snake hook”. Since we discussed methods in the last issue, I am just going to say, click on grab, pick a spot more-or-less centre top, and while holding the primary mouse button, drag upwards. However, the brush size is tiny, and you will get only a horn, change the radius from 50px to 500px by dragging the slider that says “Radius” to the right. I get quite a nice egg-shape, but when I rotate my clay (middle mouse button and move), it wobbles like jelly. This is great for freehand, but not quite what we want. That said, I want a symmetrical character that views the same from every angle and you may not, so just enjoy your creation. So let us try the next tool down, elastic deform. Feel free to click on the grid on the right to change your view to orthographic, or bonus points if you can remember the shortcut key. With the brush still at maximum, repeat the process. That is actually a nice egg-shape. Now we rotate the egg and you cannot see that it is rotating, this is good, as it indicates uniformity. So this is the tool we need. For completeness sake, repeat the process with the snake hook. Did it work for you? What was the outcome? Actually all three worked for me on some level, but not my vision. (Angry birds-type of penguin, I think my reference is called “bomb”, so feel fee to search the interwebs

for angry birds character or names, and you should see the image I am referring to).

Since we are on the subject of reference material, you may have seen tutorials online – and if you have not, may I recommend “borncg” on Youtube - you will sometimes see they have a picture in the top-right. This is not overlaid on the video, rather it is built into Blender. You can replace the panel with your “Scene collection” to display a reference image you stole off the interwebs. To go about this, look for the treeview icon on the right just above the “Scene collection” and expand it with the little downward arrow. As it goes away when you move the mouse, I have to include a complete screen screenshot.



Once you click on the second option, then you will click on the word “Image”, to the right, then on “Open”, and browse to your image to have it displayed there. If you have an older version of Blender, you can simply click on “open” on the right. If this is not your style, or if you have multiple monitors, you can always ‘alt-tab’ to the image, or have it open on another screen. This tip is for when you are on your laptop, like I am at the moment, and you have fifteen minutes spare (because you don’t smoke) scenario.

There is another way too, via add-ons, but I do not want to complicate things for newbies yet, as you need to switch from sculpt to object mode and import it as a background image.

In blender, you can enable symmetry on an axis, so that things are mirrored, making it easier when you need to create two of a thing, like eyes, or arms and legs, and you can find it on the top-right, next to the little ‘butterfly’ looking icon. The X, Y and Z there are the axes on which you wish to mirror. (I may not have covered that in the first three articles, I am human too, I make mistakes, no-one knows that better than my wife, she reminds me of them every day. *wink*). If you plan on making changes to the “pear” or “egg”, I suggest you mirror them when sculpting as it makes things more uniform.

For the guys who want a bit more on the Sculpting side there’s a few more things you can do after you have the "egg" form:

- *Click and drag on the object and it will be sculpted. Among the most useful brushes are: Clay Strips, Inflate, Crease, Pinch and Grab. But there are many more, including some fairly new ones, such as the Cloth brush.*
- *With the "blue" tools, you generally add volume to the model (and by pressing Ctrl, you remove volume).*
- *In addition, the Smooth tool is used to smooth the sculpting. It is very useful that by pressing Shift at any point in the sculpting process, the Smooth tool can be temporarily accessed.*

- *I also find it interesting to say that you can switch between Edit Mode and Sculpt Mode to, for example, modify the object with the Pose brush or to smooth it with the Smooth brush in Sculpt Mode and then switch back to Edit Mode to continue with traditional modelling.*
- *Finally, for somewhat more advanced tasks, the Multiresolution modifier, Dynamic topology (Dyntopo) or Remesh can be used.*

Erik has been in IT for 30+ years. He has seen technology come and go. From repairing washing machine sized hard drives with multimeters and oscilloscopes, laying cable, to scaling 3G towers, he's done it.

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How-To - Latex: Part 9

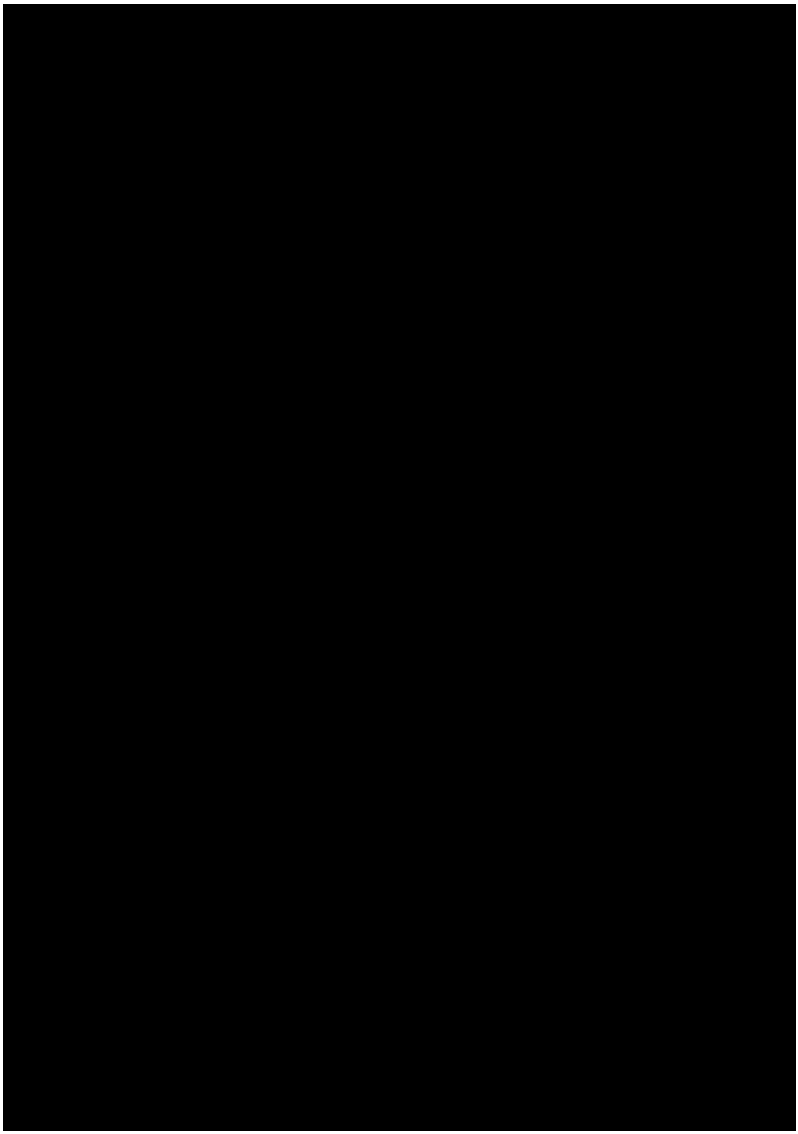
Written by Erik

When it comes to typesetting, LaTeX is the undisputed champ. Boika, Boika... It outweighs its opponents in the sheer number of options alone. At first, LaTeX is a bit confusing and difficult to use. Not to scare you, but I suggest looking here: *http://tug.ctan.org/info/symbols/comprehensive/symbols-a4.pdf*

By now you have settled on an editor and I will not introduce another. What I will be touching on in this issue is alignment. We looked at basic mathematical placing last issue, but what if you need to do some chemical equations that span multiple lines? Yes, I know all of our readers are budding rocket scientists, just bear with me. Do you still remember how to span multiple lines? If not, quickly grab last issue, I'll wait. Right, now that we are on the same page, the trick is the ampersand. ("&") Now that you know the secret, let's play with it.

Let us build on what we already have, and add an alignment section.

Code:



When you run this, you will notice that, even though I purposely misaligned the two lines in the code, (look at the spaces too) they align perfectly in the output. This works with bigger symbols too, like the summation. Go on, try it out. Even if you just add another line, do it, you will remember it better.

This will work with however many lines you give it. If you paid any attention to your output, you may have noticed that there are numbers next to your equations, so you an reference the later. What if we don't want these? Add this bit of code and see what it does:

You need to be sure when to use brackets, braces or parenthesis. Mixing them will cause all kinds of havoc on your document.

The last thing I want to touch on is \left & \right, this will position a number to that side of a symbol.

Quickly add this code in place of whatever there was in your \begin{equation} -section:

Now peruse the output. Try changing something, like removing the \right. What happened?

Since going any deeper is beyond newbie territory, I will leave you here. If you have ADHD, now you can squirrel!

There is an honourable mention here, namely the algorithm package, specifically the algorithm2e and the algorithmic packages. We as computer people use algorithms a lot. (Don't be mistaken, you can use it for recipes or todo lists too, no lie!)

From the next issue onwards, Robert will be taking over the LaTex tutorials, and should I come across WHERE I stashed the rest of the series, I will send them to Ronnie so he can put it out there for you completionists.

Erik has been in IT for 30+ years. He has seen technology come and go. From repairing washing machine sized hard drives with multimeters and oscilloscopes, laying cable, to scaling 3G towers, he's done it.

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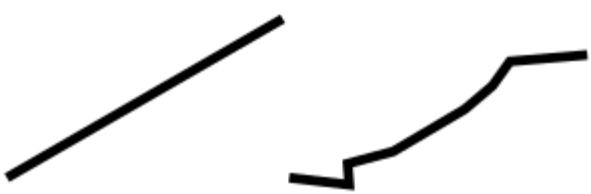
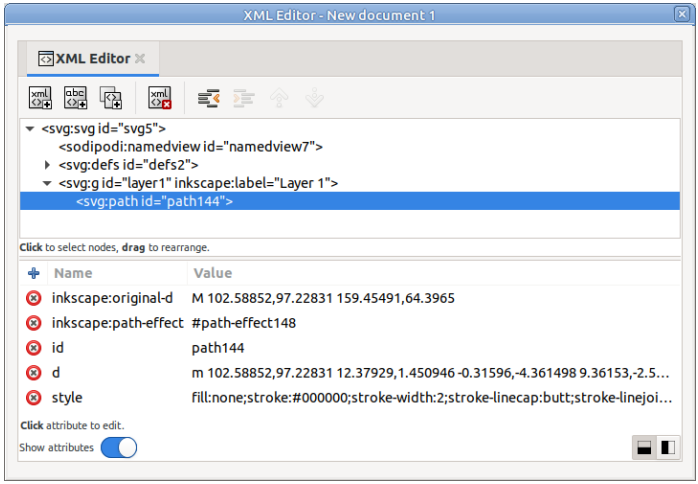
How To - Drawing with Inkscape - Part 120

Written by Mark Crutch

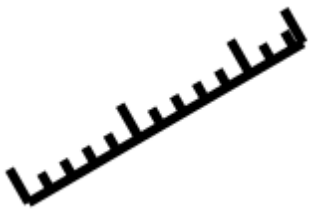
This month doesn't just mark 15 years of Full Circle Magazine – I also celebrate a full decade of writing these Inkscape columns! Many thanks to everyone who has read any of them over the years, and I hope you've found them useful. One thing I've always tried to do is to explain the underlying reasons for some of the oddities and limitations in the way Inkscape operates, and this month is no different. Having described the operation of the Measure Segments LPE last time, in this instalment I'm going to look behind the curtain at how this effect differs quite radically from those that came before it. Please note, however, that this is just for information and education – you don't actually need anything in this instalment to simply use the LPE in the way it was intended. First, a quick reminder of how Live Path Effects worked historically. An LPE was applied to a single path, and produced a single path as its output. The output path would replace the source path in the image. Here's a very simple example: the Roughen LPE, when applied to the two-node path on the left, produces the multi-node path on the right.



Looking at this in the XML editor, we can see that there's still only a single path object, but as well as a multi-node "d" attribute, it also contains an "original-d" attribute (in the "inkscape" namespace") which has only the two nodes of the original path.

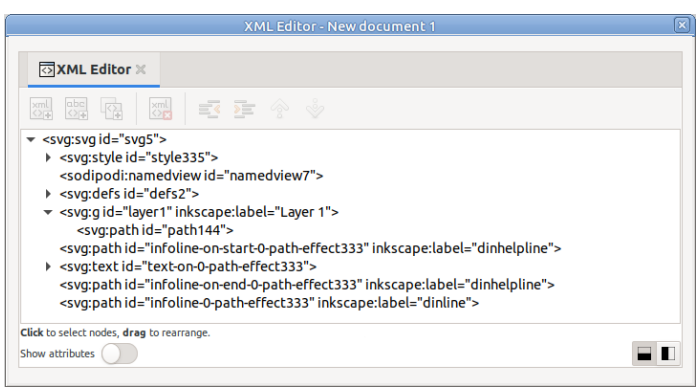


This is a pretty clever way to implement LPEs. Inkscape understands the extra attributes in its own namespace, so is able to treat the effect as a live, editable feature, while other SVG renderers, such as web browsers, will still show the result of the LPE since it's just a normal "d" attribute like you would find on any SVG path object. This approach does, however, come with one big limitation. Because the output is just a single path, it can be given only one style. Even if that path appears to be multiple separate shapes, it's actually just a single SVG path element, with gaps in the shape described by the "d" attribute (i.e. with sub-paths). If we look at the same two-node path with the "Ruler" path effect applied instead, you can see that the result gives the appearance of numerous small paths. While it would be nice to be able to style the ruler's tick marks separately from the main spine of the shape, that simply isn't possible because, despite appearances, the output is still just a single path, with a single style.



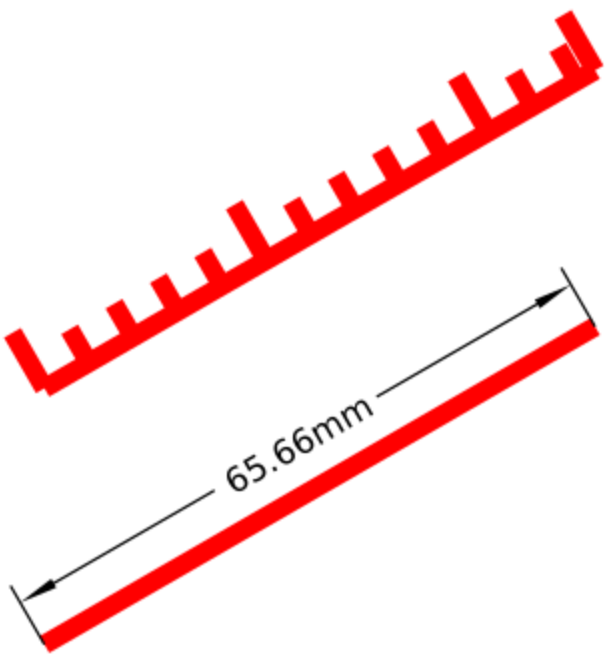
With the release of version 1.0, Inkscape has added the ability for path effects such as “Measure Segments” to break this historical limitation. No longer is an LPE limited to one path in, one path out. Let’s apply “Measure Segments” to the same two-node path:

Immediately we can see that there are multiple styles being applied here. Our original path maintains the thicker style we used when drawing it, but the lines added by the LPE are significantly thinner. How is this possible? Quite simply, the lines added by the LPE are no longer just sub-paths in a “d” attribute, but are additional SVG <path> and <text> elements in their own right. A quick look at the XML editor shows the difference. You might like to refer back to the earlier screenshot of this dialog, where the top section shows we just have a single layer with a single path in it. Now take a look at the document structure after applying this LPE:



In addition to our original path, we now have three extra <path> elements (two leader lines and one measurement line), plus a <text> element to hold the measured value. Because

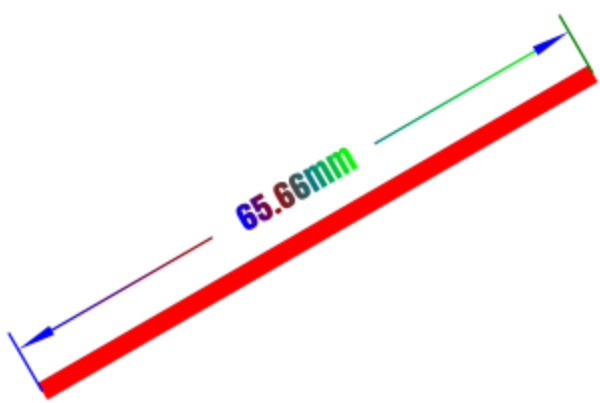
these are separate SVG elements, you can obviously select them individually in order to style each of them differently… can't you? The answer to that question isn't the straightforward yes or no you might expect, so let's delve a little deeper still. Intuitively, you might try to click on one of the new elements on the canvas in order to select it, but you'll find that your clicks are in vain. Dragging a rubber band selection box doesn't work either. The only thing you can select is the original path. Having selected that path, you can change its style as normal. As you've surmised by now, however, doing so will modify only the original path itself, not any of the elements added by the LPE. For example, note the difference in behaviour between the Ruler LPE and the Measure Segments LPE when I set a red stroke color on the original path.



As you'll know from last month's instalment, the color, font, line thickness, and other aspects of the Measure Segments LPE are set as part of the effect's parameters, split between the "General" and "Options" tabs. Should we wish to make the

dimensions match the color of the original path, for example, we'll need to manually set it via the "Color and opacity" control in the "Options" tab. There's no means of linking or inheriting styles, though, so if you subsequently change the stroke color of the original path, you'll have to also remember to manually alter the LPE parameters to suit.

If we can't select the new elements using the mouse on the canvas, is there another approach we could use? Selecting individual elements within the XML editor does still work, and selects the corresponding item on the canvas when you do so. Even with that selection made, mouse interactions are restricted: you can drag the resize handles, but still can't drag the object itself to move it (though using the cursor keys will work); you also can't click on the object in order to switch to the rotate/skew handles or other modes now available with the selection box. You can change the style though, as demonstrated by this image of a multi-colored dimension line, complete with gradients and a different font.



There's just one problem with this approach, and it's something of a deal-breaker. The "L" in LPE stands for "Live" because the output from an LPE is calculated dynamically whenever the original path changes, or the parameters are adjusted. This means that any manipulation of the original path – even just nudging the position of one of the nodes – or any changes to the LPE parameters, will cause the output to be recalculated

and all your manual changes to be discarded. You might think that this is okay, so long as you do your changes last, and then don't touch the object again, but the LPE output is also calculated when your file is loaded from disk: save the file, and reopen it later, and your manual changes are gone. There's simply no way to manually edit the parts of the LPE such that Inkscape won't throw your changes away at some point. The reason that these new elements are not selectable on the canvas is that they're all created in a "locked" state. The ability to lock objects has been in Inkscape for a long time, but has generally been a poor substitute for keeping objects arranged in suitable layers and locking the whole layer instead. This is because a locked object is difficult to unlock again – after all, you can't select it with the mouse to indicate which object you want to unlock. This situation improved with the release of Inkscape 1.0, which added an "Unlock Objects Below" entry to the context menu (see part 101 of this series for more details). Perhaps we could use that to allow easier editing of the individual components of our dimension line?

Sure enough, right-clicking on the dimension, and selecting the Unlock option from the context menu, does make the individual elements selectable with the mouse. Now they can be individually styled, and can even be clicked on to switch to the rotate/skew handles and other selection box modes. Internally, what has happened is that the "sodipodi:insensitive" attribute has been removed from each element's SVG node, which allows Inkscape to treat these elements like any normal selectable, movable, and editable objects… right until you edit the original path, alter the LPE parameters, or save and load the file. Unfortunately, just unlocking these objects isn't enough to break their connection to the Live effect.

So what's the solution? Is there a way that we can style the individual parts of the dimension lines beyond the limited options provided in the LPE parameters? Well, there is… but only in a way that removes their link to the original path. For example, do you want to style the leader lines as dashes, or with a different thickness to the arrowed dimension line? It's possible, but only by also losing the live update of the text

value when you move or modify the path.

The way to achieve this is to use the Path > Object to Path menu entry. Historically, this has been the mechanism used to "fix" the output of an LPE, collapsing all the "live" parts of the effect chain to produce just a plain and simple SVG path that has the same appearance as the final LPE output. With the Measure Segments LPE, you can still use this same menu entry to "fix" the LPEs output, except this time the command's name becomes something of a misnomer: you are no longer converting the object into a <path> element, but rather breaking the link between the original path and the various generated <path> and <text> elements. In other words, choosing this option doesn't actually convert your object into a path, but it does convert it into separate editable objects. Naturally, this means that the elements are no longer "live", so you do lose all the auto-updating that is so useful in an effect like this.

For most people, all this talk of styling parts of the Measure Segments LPE will be somewhat academic. In the vast majority of cases, the normal output from the effect will be sufficient, and the parameters it provides will give enough flexibility to style the new elements well enough. If more complex adjustments are needed, then using Object to Path will usually suffice, even if it does mean sacrificing live updates of the dimensions. It would be great if Inkscape offered a means to indicate that an element has been manually styled, but that you still want the position and text content to update, but perhaps that's too niche a requirement to warrant the development time.

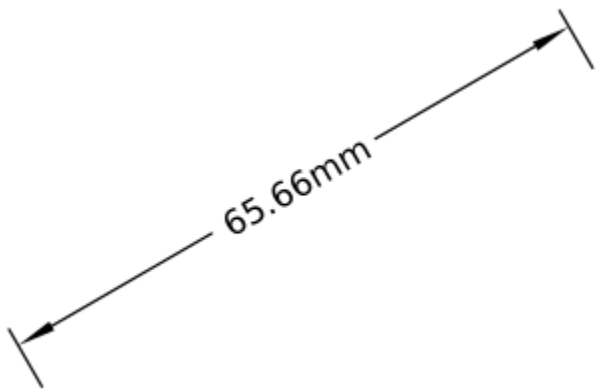
Even if you don't want to style the dimension parts, however, there's one significant aspect of this LPE's approach that you should be aware of, because the behaviour is quite surprising, and could easily catch you unawares. The behaviour of Measure Segments with regard to layers is, in my opinion, broken.

Let's take another look at the new elements in the XML editor. This is the same content as the earlier screenshot, but I've

cropped it to just show the relevant detail.

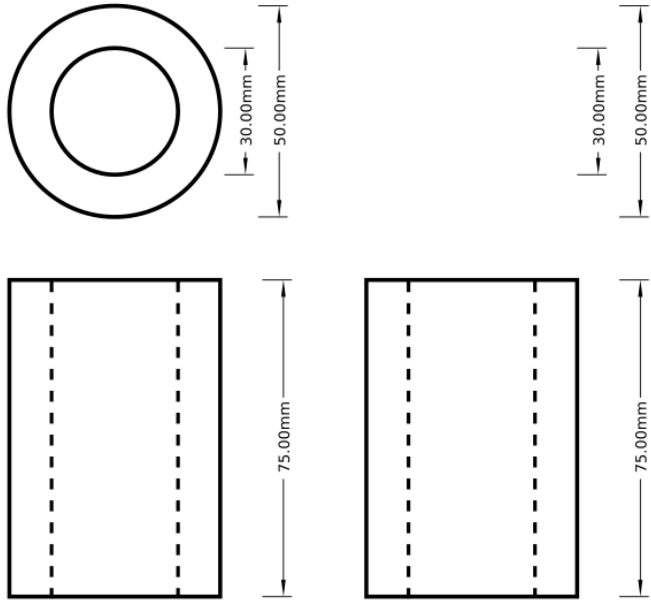
```
▾ <svg:g id="layer1" inkscape:label="Layer 1">
    <svg:path id="path144">
  <svg:path id="infoline-on-start-0-path-effect333" inkscape:label="dinhelpline">
▸ <svg:text id="text-on-0-path-effect333">
  <svg:path id="infoline-on-end-0-path-effect333" inkscape:label="dinhelpline">
  <svg:path id="infoline-0-path-effect333" inkscape:label="dinline">
```

Notice that “path144” is indented compared with the rest of the elements? That’s the original path to which we’ve applied the LPE, and it’s indented because it is a child of the Inkscape layer (the <g> element above it). The newly created <path> and <text> elements, however, are not indented because they are siblings of the layer. This means that they live alongside the layer, not inside it, in the XML structure. Now let’s see what happens when we hide the layer.



The original line is hidden, but the dimension elements are not. They all live at the top level of the SVG, not within the same layer as the path they’re associated with, so aren’t affected by hiding the layer itself. This happens regardless of how deeply nested your original path is. Consider trying to create a technical drawing showing different views of an object: common sense would tell you to put each view in a separate layer so they can be turned on and off individually, but doing so will still leave the dimensions visible. In the following example the left hand image shows a simple technical drawing of a cylinder, while the right hand one shows the result of

hiding the “Top View” layer. It’s not exactly what most people would expect.



There is a solution to this issue, but it’s not pretty. You can unlock the generated dimension content (right-click > Unlock Objects Below) – though you may need to do this multiple times for each part of the content. Then you need to select all the parts. Finally you can move them into the right layer using the Layer > Move Selection to Layer… menu option. Doing this will cause Inkscape to re-run the LPE, locking the objects again, but they will now be on the correct layer. The good news is that, once they’ve been moved, they tend to stay put. Further changes to the path or the LPE parameters won’t suddenly break them back out to the top level again. It would be much better, though, if Inkscape simply created them in the same layer as the original path by default.

Last month we looked at how to use this effect in practical terms. This time we’ve examined some of the technical details behind it. Now that the genie is out of the bottle, it’s likely that future LPEs will also create new elements rather than just

single paths, so understanding what's happening, and how they're different from older LPEs, might be a useful skill to add to your Inkscape repertoire.

Mark uses Inkscape to create comics for the web (http://www.peppertop.com/) as well as for print. You can follow him on Twitter for more comic and Inkscape content: @PeppertopComics

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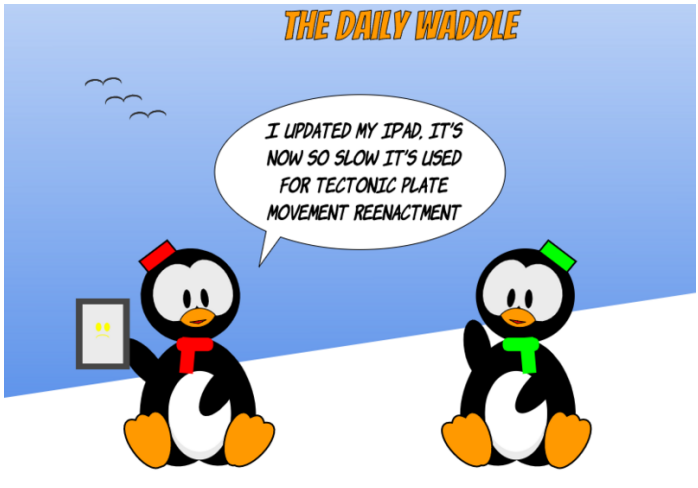

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Everyday Ubuntu - KDE Blinded Me, With SCIENCE!

Written by Richard Adams

Science and Education

One of the areas where I think modern day computer science misses the boat is in the potential for using the computer as an educational tool. Admittedly, my perception may be significantly colored by my not having been in school in any form for almost 30 years, but I can say that a LOT of the applications you saw on computers in the early days of affordable home PC's were educational programs of one type or another, particularly in the 8-bit era. If you owned a Commodore, TRS-80/Tandy, Atari, Coleco Adam, Texas Instruments, Sinclair, MSX, Apple II, or other 8-bit computer, it was very likely that you would type in programs in BASIC, and a LOT of BASIC programmers put out educational or 'edutainment' software.

Even though the computer industry has mostly branched off in other directions, I still enjoy using my computer for ongoing educational purposes, and I'm gratified that Linux is probably better in this respect than MacOS or Windows.

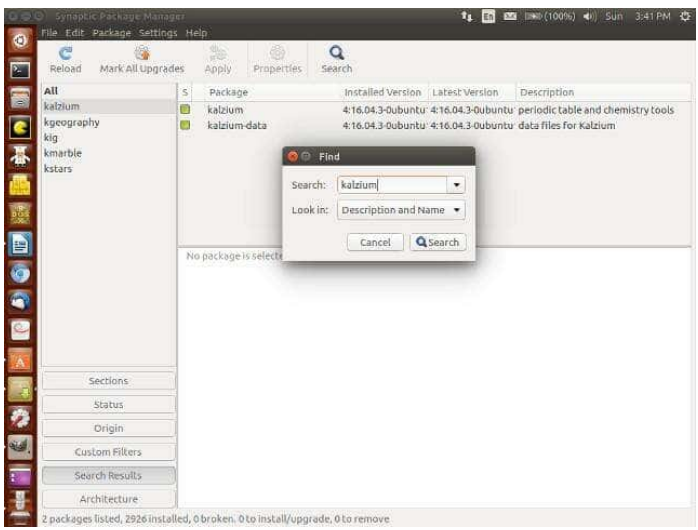
KDE Science Applications

Even if we're running Ubuntu with Unity or GNOME, we can still install and run KDE based applications. From the Synaptics Package Manager store, we can install Kalzium, KGeography, KStars, KDE Marble, and KIG.

Installing from Synaptics Package Manager

In order to install from Synaptics Package Manager, you'll want to look on the Control Strip on the left-hand side for the symbol that looks like a folder with a superimposed, downward-pointing green arrow:

In the Synaptics Package Manager window, click Search at the top and type in Kalzium. Once the application finds Kalzium, click the box for both the application and its selection of data:



This will bring up a menu allowing you to 'mark' the application and data for installation. Confirm in the dialog box that you want to install those marked changes, then click Apply at the top of the window. Click Apply in the dialog box that comes up, and the Package Manager will download and install Kalzium for you. You can repeat this process for KStars, KGeography, and KIG. KDE Marble and its data package will appear in Synaptic Package Manager as simply 'Marble'.

Kalzium

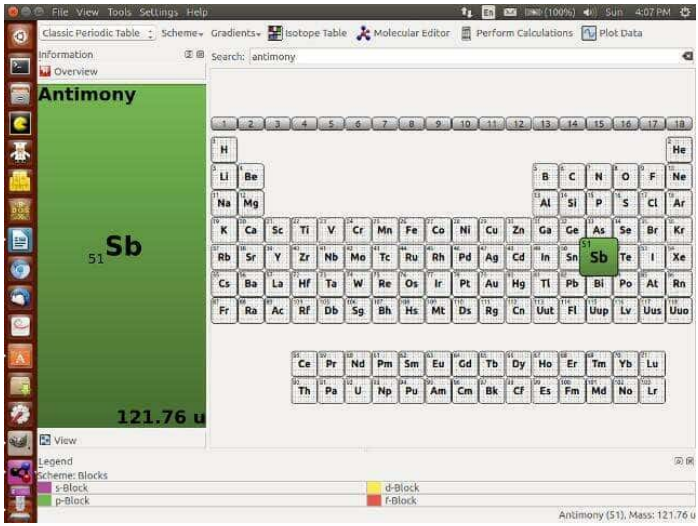
Kalzium shows a representation of the Periodic Table of the Elements. While we look at it, sing along to the tune of

‘Modern Major General’s Song’ from ‘Pirates of Penzance’:

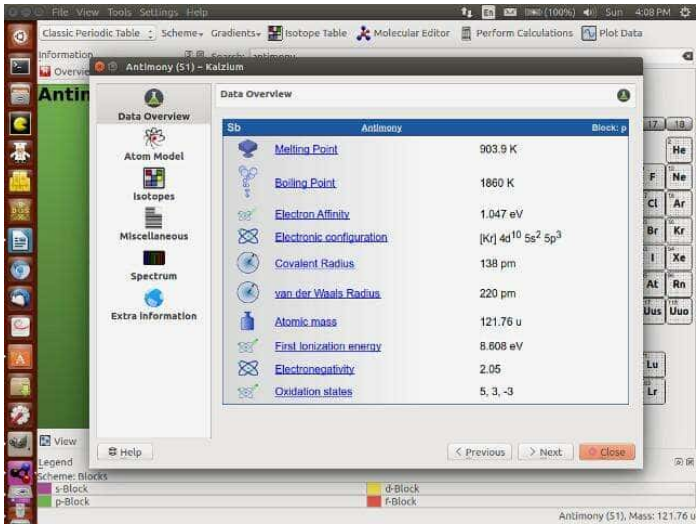
There’s Antimony, Arsenic, Aluminum, Selenium, and Hydrogen, and Oxygen, and Nitrogen, and Rhenium….

(with a tip of the hat to the inimitable Tom Lehrer).

Here’s the main initial interface:



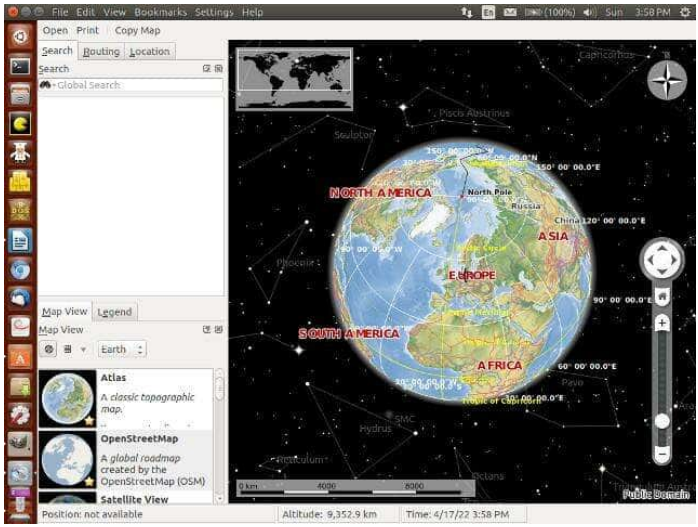
Now, we’ll click on Sb, the symbol for Antimony, and we’ll get this detail screen for Antimony’s properties:



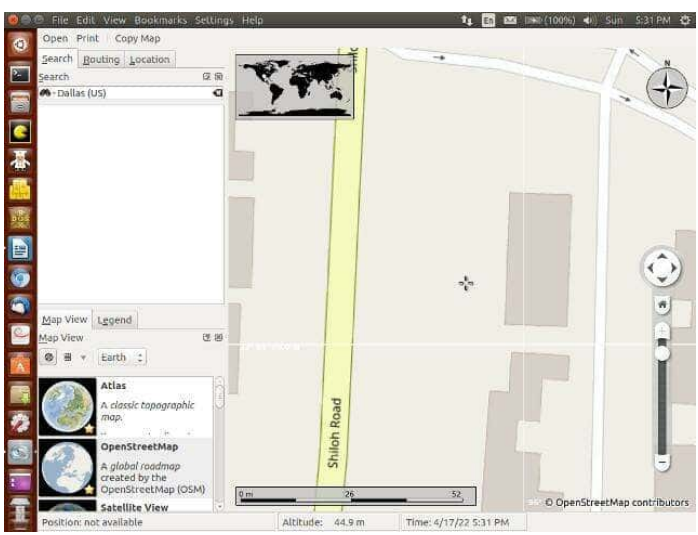
As you can see, we get a LOT of useful information about Antimony. This is a great little application for chemistry students (although it probably won't help you learn The Element Song. It is up on YouTube for anyone who wants to give it a go….)

KDE Marble

The KDE Marble application shows you a representation of a world globe:



By spinning the globe using the mouse and using the Zoom function represented on the right of the screen, I found my last Plano, TX (Dallas suburb) apartment, down to the actual building, on the Open Street Map globe:



There are also fascinating globe representations like Earth at Night, showing Earth's city lights, and the fascinating Historical Map 1689:

There are also precipitation and temperature maps, along with political maps. All things considered, a useful and interesting application with impressive capabilities!

Next month: We'll continue looking at more science applications.

Richard 'Flash' Adams lives in rural north Alabama and has been a computer support technician, a business analyst,a software salesman, a sales analyst, a QC team lead, and is now disabled/retired. He enjoys reading, NFL football, computer and video games, cooking, and playing with Baby, his cockatiel. Feedback and suggestions are welcome at acer11kubuntu@gmail.com.

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Micro This, Micro That – Part 13

Written by Greg W. Walters

Back next month

Greg Walters *is a retired programmer living in Central Texas, USA. He has been a programmer since 1972 and in his spare time, he is an author, amateur photographer, luthier, fair musician and a pretty darn good cook. He still is the owner of RainyDaySolutions a consulting company and he spends most of his time writing articles for FCM and tutorials. His website is www.thedesignatedgeek.xyz .*

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UBports Devices OTA-21

Written by UBports Team

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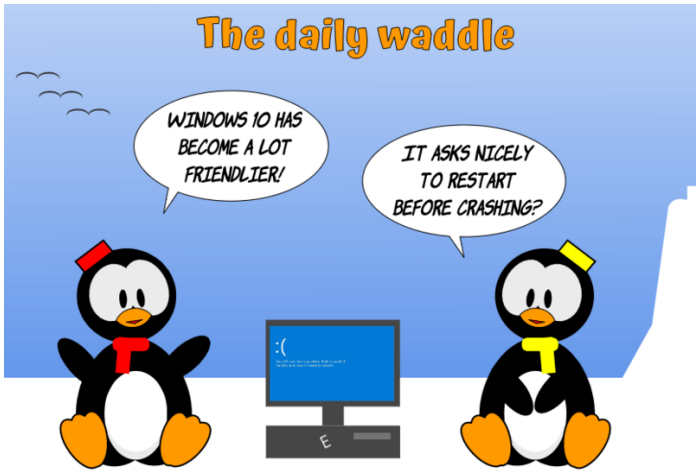

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My Opinion - First look at Ubuntu 22.04

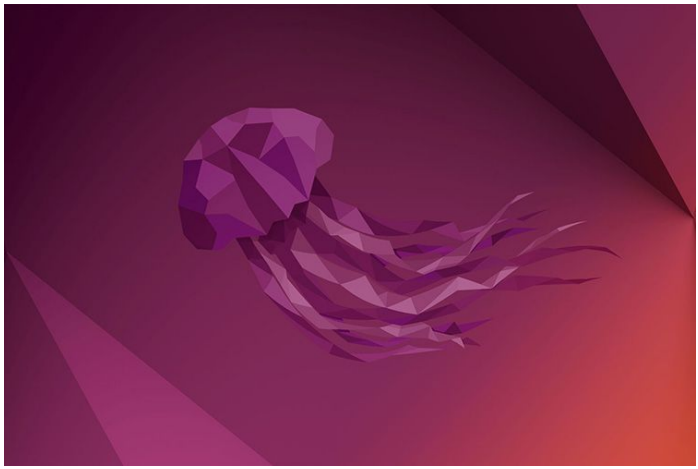
Written by Knightwise

I remember, back in the old days (2005 or so), that I heard about "Ubuntu" for the first time. For some reason it has become a core memory… where and how. My trusty Opel Astra slid like butter through the ink-black darkness of dawn, racing out towards Antwerp for my daily commute. Inside you could hear the dulcet tones of one Andy McCaskey of the Slashdot.org podcast. An unofficial podcast where Andy read the news headlines on Slashdot every day. When the dulcet tones of the word "ooh-boon-tooh" slid out of his heavily midwest accent, my accent piped up. Jaded with hundreds of Web 2.0 brand names that tried to remove vowels like pesky boils, this melodic brand name stood out and piqued my interest. It was a new Linux Distribution ... and it was promising.

As a budding Linux user I was still in my puberty faze: After the initial wonder of "not using a linux distro" wore off, I was distro-hopping out of frustration. Unable to get some core functionalities to work on one distro (for example, play an MP3), I would nuke and pave my machine and try another distribution. I was burning through my blank CD collection and getting nowhere fast. So, after Suse, Mandriva, Manjaro, College Linux, Knoppix, and a slew of other "Linux One night stands", I gave "The brown stuff" a try. It changed my Linux path forever.

Fast forward 18 years, and i"m popping in a USB stick with the daily build of Ubuntu 22.04. Still not 'ready for prime time" (It will be out in about a month), I dare to erase the contents on the harddrive of my Lenovo X1 to accommodate the latest Long Term Support version of Ubuntu. Like the infamous Dr Jeckyl, I forgo a trial run of this new potion in a Virtual Machine lab rat. My harddrive gobbles down the digital potion like sending

caution to the winds.



The install doesn't run smoothly. Since this is a daily build, there are some little issues where the installer gets stuck and dies. No matter. I choose to go for a minimal install and decide not to download the updates during install. That can be done afterwards. 20 minutes later the install is complete and I boot into the system for the first time. I am surprised, pleasantly so at the first impressions I get from the new Gnome interface. Until this day, I disliked it because it felt like a user interface that got in the way. Somehow it felt a little sluggish and slow to respond (like Internet Explorer 6 on Cocaine), but whatever they did in 22.04 fixed that bug. Gnome is fast, slick, and, with a couple of tweaks, gets out of your way.

Now comes the big test. Because I regularly switch machines (but not distro's), I've written a little bash script that installs all of the applications I use on a daily basis. Resembling the text version of a crude cave painting, it's enough to have a coder vomit up the dark pits of his entrails, but it works for me. The script runs, downloads the packages, installs the snaps, pips, and apps into place. Joplin, Yewtube, NcSpot, Mc, Discord. One after the other, the bits flow down from the sky and cement themselves onto my harddrive. Now for the big test. Judging from experience, I do know not to get my hopes up that everything will work from the get-go. Whenever I'm trying out

a newer distro, things are about to break. Getting all of my apps to run requires some Googling and some tinkering. But not this time. Everything works out of the box! I am very impressed.

From Tinker-Toy to Daily-Driver.

The step from an experimental machine to "tinker around" with to a "daily driver" is small. As a freelance IT Consultant I run my own company using mostly cloud software so all I need to do is download the stable version of Microsoft Edge, sign in using a personal Outlook account (You can't login with Office 365 account yet) and sync down all of my bookmarks and extensions. Next up I quickly click through my favorite bookmarks and turn them into webapps. I add their icons to the launcher and I'm good to go. Outlook, Teams, Sharepoint .. it's all there. If I need to sign into the work environment of one of my clients I use a separate Edge profile to keep the digital environments separated. I even found an app that allows me to sync my Onedrive (and should I want to, Sharepoint) folders to the harddrive. This is something that comes in handy when I choose to go "off the grid." and ditch the distractions of the net.

So in the end

Taking a look at the finished product, I am pleasantly surprised how well it has all turned out. Playing around with Linux used to be just that, "playing around". Tinkering with an experimental system that you would never dream of taking into a real-world environment where your livelihood would depend on it.

Sure you would play around with getting the desktop tweaked just right, days getting drivers to work and weeks bragging about how you cobbled together a system with 3rd party script, hours of googling and multiple instances of despair where you would fling your laptop into lower earth orbit out of pure frustration. Like some kind of war veteran you would have earned bragging rights that you got "something-something" working on linux while getting dubious looks from Mac and

Windows users who got whatever you mentioned working "out of the box".

But here is the difference: Looking at 22.04 Linux is no longer a puzzle, a tweakathon, a geek challenge. It's an operating system that is ready for primetime BUT also offers the power of a highly tweakable operating system. Some bearded enthusiasts mumble whether this is "the year of the Linux Desktop". My answer remains the same: It's not and it never will be. Because the years of the desktop wars are over. These days it's about platforms in the cloud. The ability for your operating system to interconnect and interact with these platforms is what makes an OS relevant. This is true for desktops, laptops, phones, tablets, smart TV's, cars and fridges. If it connects .. it's relevant. We have come to the point where getting your Ubuntu machine ready for primetime has become a somewhat un-challenging and boring experience without any major hurdles. And that is exactly where we want it to be.

Knightwise is the host of the Knightwise.com podcast since 2005. He is an avid open source advocate and cross platform geek. He lives in Belgium with his geeky wife, 2 dogs and there have been rumors of a cat, but those remain unverified.

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How To - Write For Full Circle Magazine

Written by Ronnie Tucker

Guidelines

The single rule for an article is that it must somehow be linked to Ubuntu or one of its many derivatives—Kubuntu, Xubuntu, Lubuntu, etc.

The Official Full Circle Style Guide can be read at: *http://bit.ly/fcmwriting*

Please read this document before submitting an article. Follow the guidelines and you will have a much better chance of seeing your article in Full Circle.

Writing

There is no word limit for articles, but be advised that long articles may be split across several issues. In your article, please indicate where you would like a particular image to be. Please do not use any formatting in your document.

Images

Images should be no wider than 800 pixels, in JPG format, and use low compression. When you are ready to submit your article, please email it to: *articles@fullcirclemagazine.org*

Non-English Writers

If your native language is not English, don't worry. Write your article, and one of the proofreaders will read it for you and correct any grammatical or spelling errors. Not only are you helping the magazine and the community, but we'll help you

with your English!

For Reviews

Games/Applications: When reviewing games/applications, please state clearly:

- *title of the game*
- *who makes the game*
- *is it free, or a paid download?*
- *where to get it from (give download/homepage URL)*
- *is it Linux native, or did you use Wine?*
- *your marks out of five*
- *a summary – with positive and negative points*

Hardware: When reviewing hardware, please state clearly:

- *make and model of the hardware*
- *what category would you put this hardware into?*
- *any glitches that you had while using the hardware?*
- *easy to get the hardware working in Linux?*
- *did you have to use Windows drivers?*
- *marks out of five*
- *a summary – with positive and negative points*

You don't need to be an expert to write an article – write about the games, applications and hardware that you use every day.

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Review - Cutefish OS

Written by Erik

Website: *https://en.cutefishos.com/* or *https://cutefish-ubuntu.github.io/*

Blurb: *"Cutefish OS is an elegant, beautiful and easy-to-use Linux desktop operating system. It runs Cutefish Desktop based on Debian 11 bullseye and has a modern style design. Our goal is to provide users with a comfortable interface design, better user experience, and a better choice."*

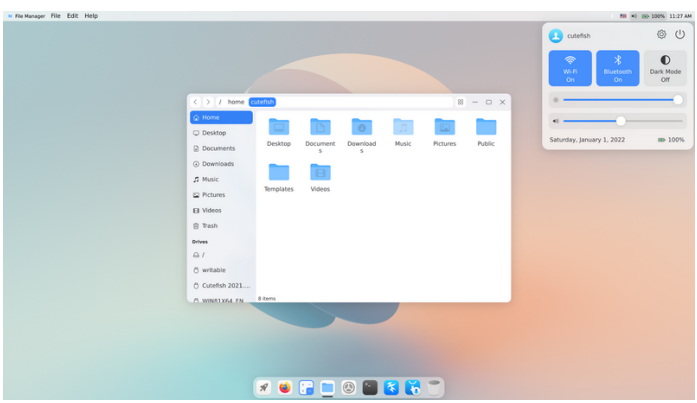
This is a confusing project, it seems to be based on Kubuntu, the Github page saying it is based on Ubuntu, but the official page saying, Debian 11.

First Boot:

Cutefish took a while to boot, mainly because it had issues with my WiFi card, saying firmware was not found. Once in, I left it to settle down, and opened htop, which sort of wasn't installed. OK, top it is. Top informed me that Cutefish was using 29% of my CPU. To put it into perspective, budgie uses 1.3% - 2%. I would not suggest installing this on anything below an i-series CPU. There are no minimum system requirements at the

moment, but a core2duo and 2GB of memory will just frustrate your experience. That aside, it's a stunner. It looks good from the get go. I want to remind our readers that this OS is in BETA and NOT ready for daily use.

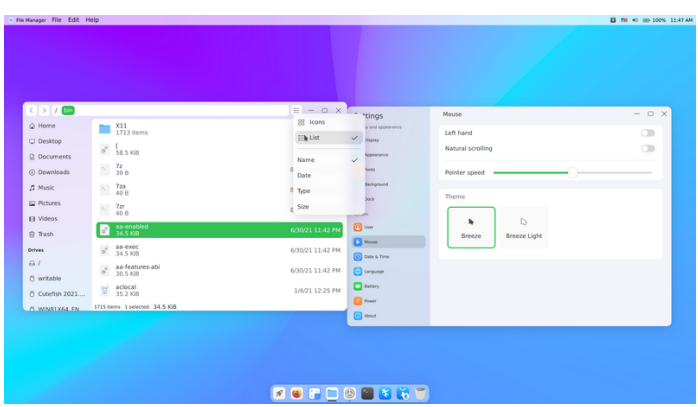
Let's start with the obvious, there is no menu button. Cutefish does not ship with a menu. Instead, you have a rocket icon on your dock that brings up a fullscreen icon page of everything installed, ala Gnome. (Exposé?). Everything is very smooth and looks like polish was applied first (we'll get back to why I say that). The top menu bar and integrated global menu seem okay, but we all know this does not work in Linux as there are too many applications that do not support it. I'd say 70-30 in favour of no support, so unless the developers plan on doing a lot of work, maybe this needs to go back to the drawing board. This does free up screen real-estate in your file manager, not having a window header, but where does a new user grab the window to move it? The views are currently only icon and list, with no way to customize it a bit, as copy/cut and paste in list mode is sort of, out of the question with a mouse.



While we are on this subject, the logout/shutdown button is nowhere to be seen, until you click on the battery percentage in the menu. Again, it all looks fantastic, but it is non-intuitive. The first time I used the file manager, I had to explicitly click the back button to go back, as backspace did not work. Only after the second boot, did this functionality seem to come online. The file manager has a very crisp look and feel, thanks

to the uniform and sharp icons in the navigation pane. However, one cannot enlarge the navigation pane to see long volume names.

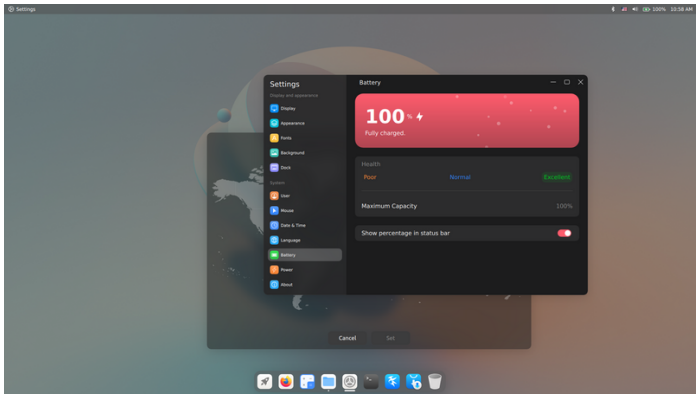
By default, there are not a lot of applications installed. However, there are two music players, two video players, two media players, and two text editors! Software is handled by the Muon package manager, which just feels waaaay too busy for a minimalist OS such as this. There is an application called ”shelf”, that does not respond to mouse clicks other than close. As I said, beta software, though that feels more like pre-alpha. Whilst things in the application side seem a bit wonky, things like wallpapers seem to have been deliberated over for months, as they enhance and show off the cutefish desktop to an excellent degree.



Again, here is polish applied; in the settings, you can apply

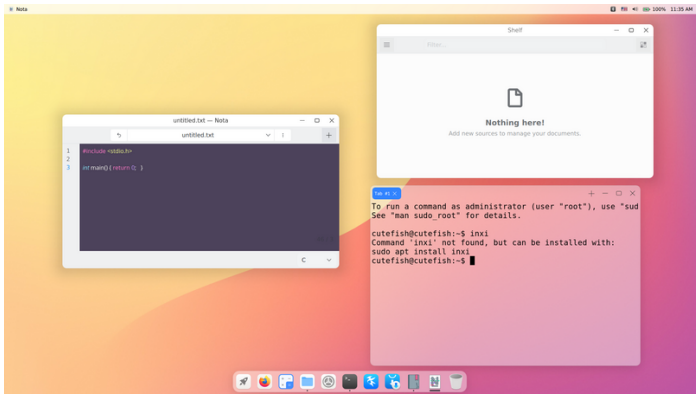
“system enhancements” that will round the corners of windows, add transparency to the built-in terminal emulator, and add semi-transparency to the top bar and top panel and dock. This all happens instantly. Changing fonts, not so much. We all know how important fonts are, especially if you are mimicking OSX, as it was Steve Jobs who insisted that Apple invest in good fonts to make their product nice. Which brings me to another point, there is no font manager for removing fonts. System enhancements also include a “dimming” feature for dark mode. The “dimming” of the bright wallpaper is a really nice feature and I must point out that there is only 1 dark wallpaper shipped with the OS (a fish on a black background). Since they are imitating OSX, would it not have made sense to have a dark/light switcher based on the time of day, having a dark and a light version of the wallpaper, and keep the “dimming” for custom wallpapers that do not meet the light/dark requirement? Just putting it out there like this is considered BETA, I am not knocking it in any way, I am just pointing to things and spouting ideas.

Though the OS ships with Kate on the dock, there is also an interesting notepad called Nota. Playing around with it, I tried the theme option, changing it to a few dark themes like Dracula or Solarize Dark, just to find the background stays white. You can change it, to a few buttons listed, but already the OS is starting to feel a bit claustrophobic to me. This is one of the reasons I like Linux, the freedom of choice; I don’t like being told ‘well your choices are green, brown, and sharky, and that is the way it is written. (The project does tout ‘better choice’, but that remains to be seen.) Hell, if I want pimplepuss yellow, that should be an option. I understand the OS is based around pastel colors, but sometimes I need high contrast. (Well, not me, but someone visually impaired, like my friend). Speaking of OSX, the default icon set, though pretty, needs to go. As I said, I can see these guys want their own identity, and using OSX-ripoff icons is not the way. They put so much effort into the other polish for the bling, that they can just as well make the icons their own.

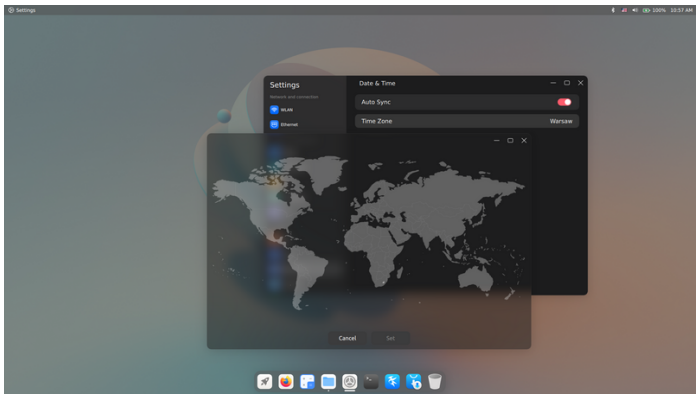


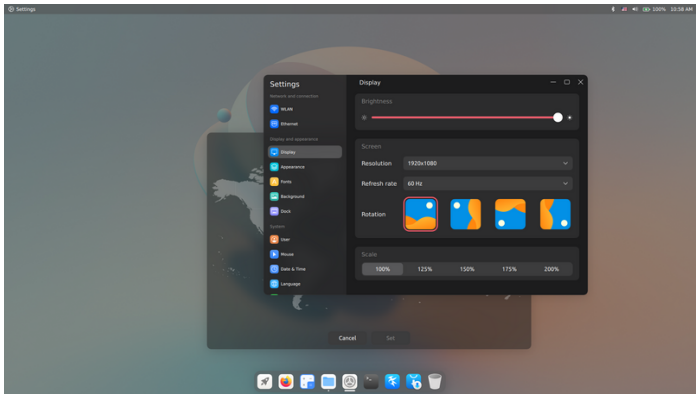
The “settings”, “control panel”, or whatever you want to call it, is sparse at the moment with only like ten settings. Even though it is based on Ubuntu, there is no hardware inventory or driver manager. The display settings work nicely, but flipping the screen also flipped my mouse. Now if that is a good thing or a bad thing, I am not sure, as on one side, I may have a portrait screen that I do not want to view in landscape mode. The display scaling also requires a log out (and log in again) to take effect, but the accents or highlight colors take effect immediately. There are some animations here - for instance, the battery indicator has bubbles?? running left to right when viewing it under battery. I am sure they are copying some android phones here. The power setting has two buttons, power saving and performance, but no settings. I am not sure what is going to happen here, but I will definitely watch this space. User settings, date and time settings, and language settings, all seem intuitive and what you would expect. The dock settings seem to be sorted with the usual suspects like placing and size and visibility options. Keyboard shortcuts are also missing at this stage, and things like CTRL and + does not increase the terminal size. (Yes it has a slider in a submenu of another menu, but sometimes one needs to be efficient.)

I wanted to write this article on the installation, but since it does not ship with any office applications at the moment, and the WiFi does not work for me to install some, it’s a bit ‘broken down on the side of the road’ for me.



I think the developers have set themselves a hectic goal. This is too ambitious to be where they say it is. I am sorry, but the OS should be in ALPHA, not BETA. Things like search functions, etc, are still missing too, but I don't want to harp on about what is missing, as it may be construed that I am negative about this release, when in fact, I am not. This needs a lot of work, but bravo to the developers for making it this far. This is balanced on a knife edge for me, it can go either way very easily.





Erik has been in IT for 30+ years. He has seen technology come and go. From repairing washing machine sized hard drives with multimeters and oscilloscopes, laying cable, to scaling 3G towers, he's done it.

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Review - SoftMaker FreeOffice 2021

Written by Erik

Website: *https://www.freeoffice.com/en/download*

Price: Supposedly free, but mine says it will expire in 6 days...

Blurb: *"The best free alternative to Microsoft Office"*

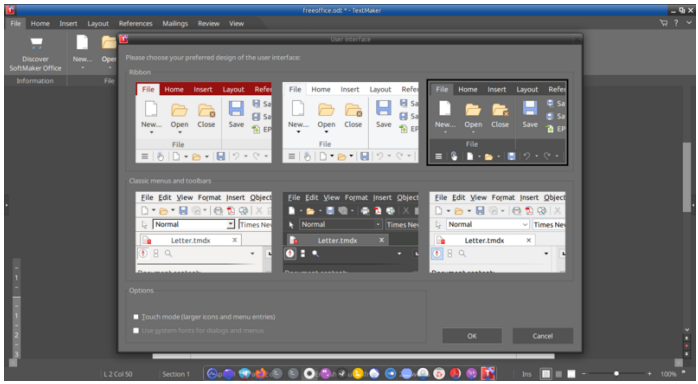
Weighing in at only 125BMB (.deb-file), the download is quick, but the installation is painfully slow if you have a lot of themes (like me), as it seems to add updated icons to each one. The installer also tries to call home, best block it in your firewall.

Linux office suites are a mixed bag, some offer better compatibility with M$ office, while others strive to be ahead of the curve. When it comes to looks, SoftMaker FreeOffice mimics Office 2013 onwards, the best. That said, the naming does not mimic M$ office at all. In my menu I see; not just "planmaker" but FreeOffice PlanMaker, FreeOffice TextMaker and FreeOffice Presentations. This now needlessly sets me on a mission to edit the names to pull my menu back to a reasonable size. PlanMaker is their version of Excel and not Visio, just so you know. Starting any of the office components, again, it immediately tries to phone home, regardless if the network is connected or not. (And here I thought the WPS office was bad!).

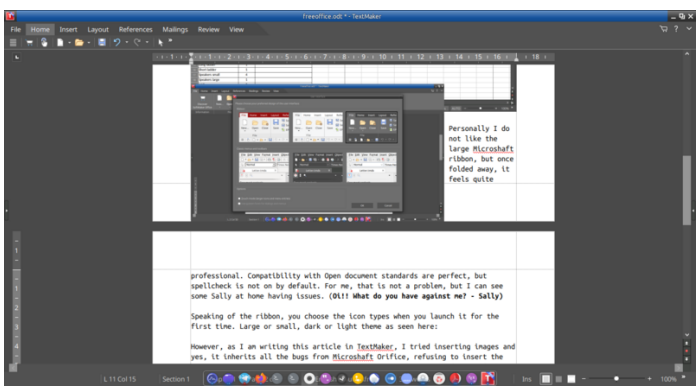
I do not like the large Microshaft ribbon, but once folded away, it feels quite professional. Compatibility with Open document standards is perfect, but spellcheck is not on by default. For me, that is not a problem, but I can see some Sally at home having issues. (Oi!! What do you have against me? - Sally).

Speaking of the ribbon, you choose the icon types when you launch it for the first time. Large or small, dark or light theme

as seen here:



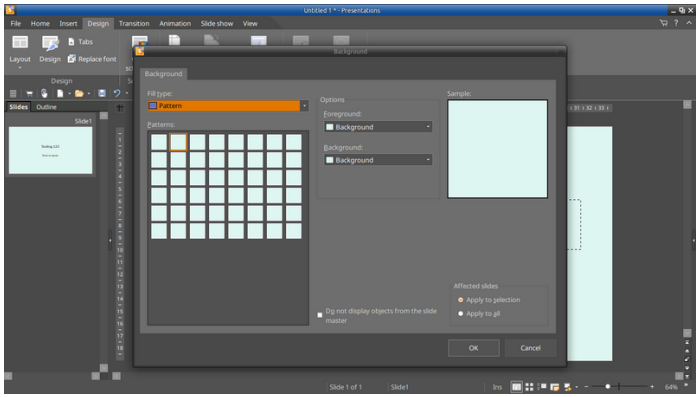
However, as I am writing this article in TextMaker, I tried inserting images, and yes, it inherits all the bugs from Microshaft Orifice, refusing to insert the images where my cursor is, instead opting to insert them in the footer of the previous page. I had to revert to trusty LibreOffice to get the images inserted correctly, as it would not cooperate.



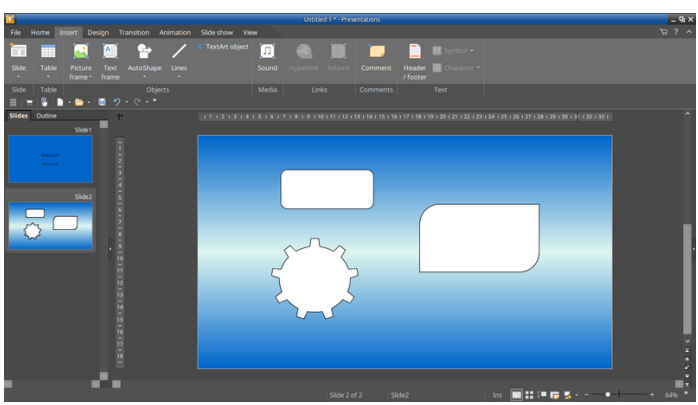
Also, in TextMaker, the line spacing is bigger than other Office suites on my ‘puter, meaning the pages did not line up. (Font was standard Ubuntu Mono at 12pts). The plus side to this is that there are no visual artefacts when scrolling. Saving a document in TextMaker, automatically adds grey outlines to your page, that carry over to other editors. I am not sure if that is a good or bad thing. Opening a new document with a lot of images is where you may find a slight niggle, they take a while

to load in, even on an SSD. You may find yourself flipping back and forth between the pages looking for a specific image to pop into one of the blank spots.

Next, I gave Presentations the quick once-over. Immediately I was stuck trying to pattern the background.



All the background “tiles” were blank. Now I am not sure if this is because I downloaded the free version, or if it is a bug, but this is where my woes started. Only after trying ALL the options, then circling back through them, did the patterns appear. I did not expect this level of sluggishness. Trying to add a blank slide quickly with CTRL + m, which resulted in the “inset slide” pop-up to appear with layouts. The blank slide is hidden two-thirds the way through.

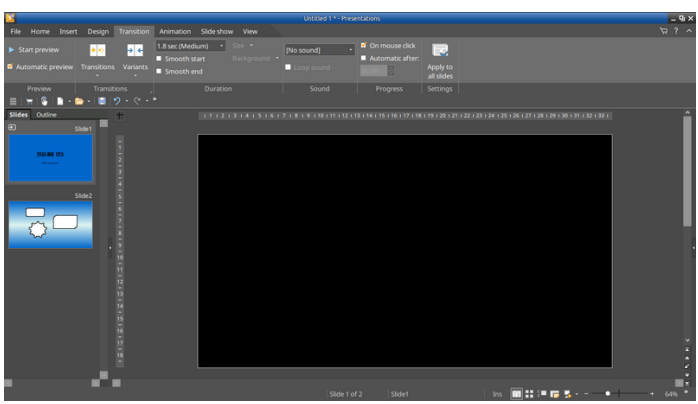


Again, I am not sure if this is a positive or negative, but it felt

like my rhythm was interrupted. I would write that off to me being used to using LibreOffice, but even M$ office places the blank page / template first.

I wanted to add a note as to what I did to get there, and could not find it. I hate having to scratch for the things you use the most. There is a “Comments” option, under the “insert” tab, but that kept saying it could not make the note without me entering my name and surname. *Le Sigh... I did find “notes” under the “view” tab, if you were wondering (same as MS office). Instead of the presentation just sliding up and me getting to type my note below my side, it narrowed the slide, and I could not just revert, even pressing CTRL + z. The space I was offered to put the note in, was in the right pane, where the slides / outline usually is. It said “note 1”, but I could not type in it. Suddenly it all just felt foreign.

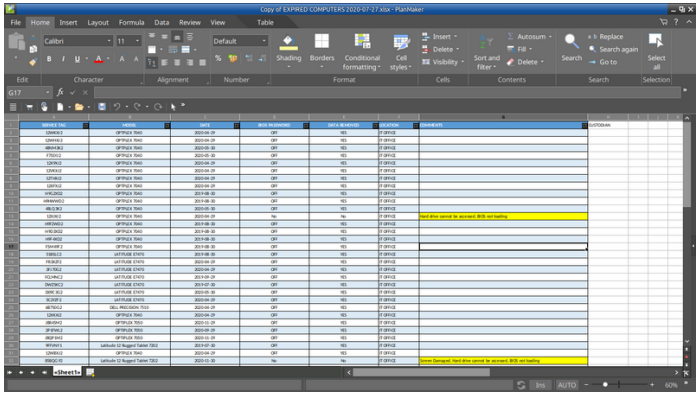
The ribbon is quite responsive and fairly easy to use once you get used to it. The tools on the ribbon are also quite useful, so don’t think that it is all bad. Choosing “transitions”, I opted for the “SoftMaker Transitions”, which netted me a back slide. Again, not ideal.



My whirlwind tour of SoftMaker Office was slowly starting to leave a bad taste in my mouth. I decided to leave it there, and we will see if the 2022 version got any better. I am trying to remember that I am used to LibreOffice, and should not compare the ease of use as my outlook may be skewed.

I was not done, as Excel is usually the most “productive” application in the M$ office suite. I would import some “.xlsx” files to see how it went. PlanMaker looked a lot like M$ excel, except for the trolley. The same trolley is in the top bar too. I get it, they want you to buy it. If it had a mail client like Outlook, I would get all my clients to at least consider it. Not having to buy Office again because M$ decided that the version you had now does not work on server any more and you need to buy another licence, to justify some crap excuse, is reason enough. (I get it, M$, software makers need to be paid, but not over and over and over again, ad nauseam, for the same thing, because, EULA).

So how does it perform in PlanMaker? Quite admirably, actually, all my macros worked, everything displayed properly.



I did not have any Pivot tables to test, (I did test the sample ones from Microsoft, and had no issues with those, but I must admit, I am positive your own will work, as even the funny stuff with recursive formulas worked for me). To put this into perspective, they run out of memory in Excel and crash M$ office when you open them, but in SoftMaker FreeOffice they don’t crash. I pulled in a 34MB excel document from a client and PlanMaker idled at 100MB of memory usage. Running a report off the data, my CPU spiked to 70%. It is an i3, comparing it to the work Dell i5, where M$ Office ran 100% CPU usage on the same report and you could do nothing but wait, I continued writing my article on Linux. This may be a

Linux / Windows thing, but the report finished at the same time as Excel, which makes one wonder. I am going to go out on a limb here and say that the performance of PlanMaker is better than any other Linux Office suite, including M$ Office.

SoftMaker needs to add an email client and maybe something like Visio, and it will be a show stopper. (Or get sued out of existence by Microsoft). If they had put as much work into the presentation application as they put into PlanMaker, this release could have been the diamond in the rough. I do not use Presentation or Powerpoint anything, but it is the weakest link in the suite as it is now. Let's hope it is fixed in the next release. For Windows, I would definitely buy this; for Linux, if you are not tied to M$ ribbon and layout, there are other options: WPS Office also did everything I wanted, without slowdowns and artifacts in the powerpoint application. OnlyOffice (Free version) does not give full functionality to the free version to test, you have to buy the paid version to test all there is. JoeOffice is alpha software, but usable.

Uninstalling Softmaker Office also took its sweet time, giving me time to make a cuppa, smoke some ham, mow the lawn, paint the boathouse, and write my 420-page novel.

Erik has been in IT for 30+ years. He has seen technology come and go. From repairing washing machine sized hard drives with multimeters and oscilloscopes, laying cable, to scaling 3G towers, he's done it.

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Letters

Compiled by Ronnie Tucker

letters@fullcirclemagazine.org

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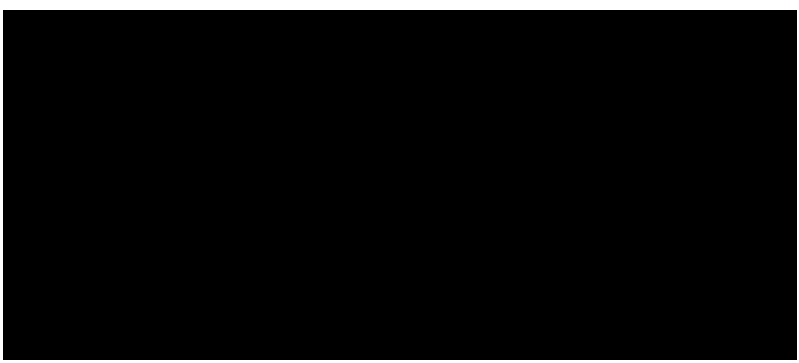
Q&A

Compiled by Erik The Unready

If you have a Linux question, email it to: misc@fullcirclemagazine.org, and Erik will answer them in a future issue. Please include as much information as you can about your query.



Everyone is familiar with the “download more ram” ram story and it goes to show you how gullible people are. I even remember my woes at a friend’s house when he got a “RAM doubler” for his Windows 95 computer and many people “back in the day” were caught out with these scams. These are all tales we can laugh at with 20/20 vision. (or 2022 vision... OK I’ll see myself out) However, not so long ago, I had a friend who got an ADSL connection, before any of our other friends, and would download like there was no tomorrow. To put it into perspective she would buy hard drives to store her downloads on a quarterly basis. She was computer savvy, or so I thought... I had just installed Warty warthog and was trying my best to get my laptop connected to the internet via my new PCMCIA card, when I got the call. Printer issues. It sounded to

me like she was out of ink, but I went to look anyway. It was one of those (then) new inkjet printers, Lexmark, I think, and she was one of those people that installed all the software that came on the CD's accompanying her stuff. I did a quick test print and only Cyan showed up on the paper. I told her that she was out of ink. This was not possible, she assured me as she got new ink two days ago. Thinking she may have swapped the new and old cartridges, I asked to see the old ones. This is where things went bottom-up. She proceeded to show me how she "bought" new ink. There was a pop-up from the printer software, saying buy more ink, and she had been clicking the OK button to "download" more... This is your reminder that everything is "magic" until you get to grips with it. Keep playing with Linux, you will gain the benefits.

Q Seriously not a fan of parted, is there another way I can resize my disks that is easier?

A Does the built-in 'disks' utility not work for you?

Q I want Ubuntu and Windows 11 on my machine. Should I dual boot or use a VM?

A What is your goal here? If you just want windows to run a few programs Ubuntu cannot, put it in a VM, if you would like to learn about bootloaders and maybe run into problems later, dual boot.

Q Sometimes I can't edit a file and I need to use sudo to edit them, sudo mousepad but I just want to open mousepad and edit them, if you know what I mean?

A I do. It all boils down to permissions, you need to be in a group with write permissions to that file. When you do: ls -la -you will see the permissions on the left, the r, w, and x's. If you are not the owner of that file, you need to be in a group with permission to read and write to that file.

Q Something very strange is going on, I set up a ping to 8.8.8.8 and reboot my router – I get connection issues – and there is a

time it connects, receives between 2-5 packets back and then the ping fails again. My Xubuntu is still on version 20.04, but I had the same issue on 18.04. Then I need to disconnect the wifi with the network icon and connect again for it to work. If I don't go through this ritual, I get connected to the router, but not the outside world.

> A Sounds like a cheap / nasty router with 2.4GHz enabled and 5Ghz disabled. When booting it will turn on 5GHz, to which your machine will connect immediately, then the software in the router will disable 5Ghz throughput. Try turning on 5Ghz WiFi or if there is a reason you are using 2.4Ghz get a better or 2.4GHz only router. (I know this sounds harsh, but those are your only options)

Q My dad has Lubuntu on our computer, but I want to add Windows 10 on there too. How do I do it, keeping both?

> A That depends on how you want to install it, side-by-side, you cannot as windows is too dumb to play nice. You can add Ubuntu to Windows, but not Windows to Ubuntu. You can add Windows in a VM like virtualbox or any of the other virtualisation options or install it on its own drive, even an external one, you just need to choose the boot options.

Q I have Kubuntu on my laptop and my router is upstairs, when I go downstairs the signal is weak, so I installed another access point downstairs. The problem is that my Kubuntu does not automatically switch to the stronger signal when I am downstairs. I thought just making the SSID the same would have Kubuntu switching by itself. How do I do this?

> A In the router and AP WiFi settings, turn down the power output to say 40% and test. The issue is that the signal is not weak enough for Kubuntu to switch, so it stays connected. By default the power output is always like 100%. Play with those output values until it works. 100% power is probably overkill anyway.

Q Is there any point to having snaps in Ubuntu? Please explain this to me as everything I read about it is negative, so why have it?

A I did not want to answer this in Q&A as it is too long, but I think the answer will apply to a larger audience: People perceive snaps as bad, as they cannot control it, it will auto update your applications without asking. Linux is about control over your software after all. Secondly, for some programs it can be unnecessarily large – as it has to hold all the dependencies for that program. However, this is NOT always the case, for instance I have blender as a snap – it is roughly the same size and it does not install all those 100 other packages to my installation, it all just lives inside the snap. This is good if you don't want "bloat" in your system, (lots of packages installed for one-time use of one application) Thirdly the back end of snap is proprietary and we as Linux users have come to despise that word as it usually means "sneaky s#!te". However the proprietary part is not on your computer, but at Canonical and does not affect you at all. I do not think they are inherently evil, think of them like dmg's on an Apple MAC. The point to having them is you avoid dependency issues and installing lots of packages and are generally considered safer, for if you delete a file in the snap while running, you can simply close and re-open the snap and the files are all created fresh again.

Q Don't laugh, I am new to this stuff. I have normal Ubuntu 20.04 on my laptop. This is the advert. So far I am happy to report that I have had no forced reboot updates or bluescreens. In learning about the Ubuntu ecosystem, I decided to install Jitsi. My issue is with the camera not displaying anything but a red haze. Audio works fine. I tried Skype instead, but I got the same problem, so I don't think Jitsi is at fault. Can you help me?

A I don't think Jitsi is to blame, or Ubuntu, for that

matter. I suspect kids. That specific model in that picture has a red “privacy shield”. If you look around your webcam at the top of your screen, you will see the red circle, you need to slide that plastic back to reveal the lens underneath.

Q I have been spoiled with Solus in that I haven’t had to reinstall since day one. I have grown to like it so much that I use Ubuntu Budgie now. With Ubuntu 22.04 on the horizon, I am dreading the reinstall as I always forget SOMETHING. I need Ubuntu as Solus does not have the software we use. What can I do about it, I don’t want to always lag behind.

A You could look into *https://rollingrhinoremix.github.io/*, like Solus, it aims to be rolling.

Q I have been having really odd issues, and I opened my old laptop to find the fan boiling hot. Can I control my fan with Ubuntu, maybe spin it at 75% all the time?

A Yes and No. It depends on the laptop and the software. However, I think you have a bigger problem. If your fan is not spinning freely, then the friction will cause heat. Laptop fans are usually bearing-less, so it is possible to clean and re-grease the spindle. If you can afford it, get another one as soon as possible, as the fan is meant to take heat away from the machine, not add to it.

Q Something is not hundreds with Latex from the repo’s and I don’t really want to build and maintain it myself, do you know of a PPA I could use? I’ll even consider nightlies.

A How about a net install: *https://www.tug.org/texlive/acquire-netinstall.html*

Q Can I clone my Ubuntu machine to a new one? I find that the little i5 just cannot keep up and my HOD has signed off on an i7 for me. The problem is that they are different models and brands and it took me a very long time to get my machine ‘just

right', it is only a bit underpowered, taking all day to do what my manager's i7 does in 2 hours.

A You CAN and you have a pretty good chance of it working too, unlike Windows – I would, however, see how it works first, as drivers are unpredictable. If not, do a fresh install on that machine and migrate your profile.

Q Why is it that I find some packages missing in WSL compared to a normal Ubuntu installation?

A Sorry, no idea, WSL is something I know nothing about, I try to avoid Microsoft as much as possible.

Erik has been in IT for 30+ years. He has seen technology come and go. From repairing washing machine sized hard drives with multimeters and oscilloscopes, laying cable, to scaling 3G towers, he's done it.

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Ubuntu Games - Growbot

Written by Erik

Website: *https://www.growbotgame.com/*

Price: $19 US

Blurb: *“Growbot is a 2D point-and-click adventure about a robot saving her home from a dark crystalline force. Set upon a beautiful biopunk space station, you play as Nara, a growbot in training to become a captain. When your station home is attacked by rapidly growing crystals, it's down to you to save it.”*

Like many stories, you are a junior in training, with big aspirations – to become the captain of a ship. The game takes inspiration from Machinarium, but with a floral theme. The story revolves around Nara who is thrown into the deep end on her(?) first day at her new assignment. Nara is a robot after all. The captain is missing, and the ship is damaged. If we compare this to our last review, Virtuaverse, this is in another league. There are no moon puzzles, no clicking around the screen hunting for the odd pixel out, no running twenty screens up and down looking for stuff, and no unlimited inventory. The interface is not in your face either. The ship you are in is limited in size, so there are only so many rooms to explore.

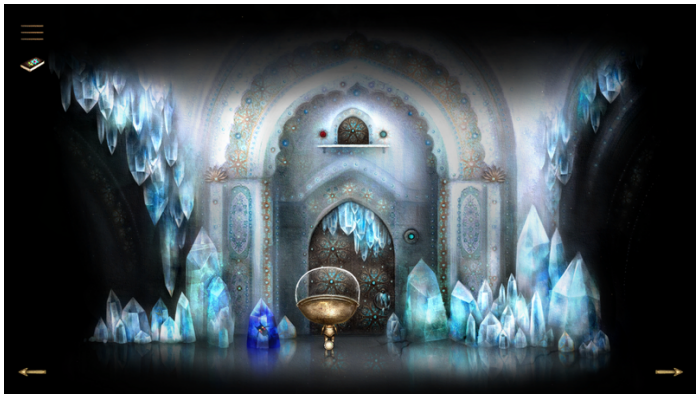
Without moon puzzles, the game does not require a hint system (there is a spacebar that will tell you what you can interact with). That said, some of the puzzles are auditory. This again harkens back to Loom from Lucas arts, the first point-and-click game many people played. As the ship is only so big, the game is rather short and that brings us to the only gripe I have with the game, the ending, but more about that later.

The game describes itself as biopunk, but to me it is more robots in space. Anyway, the atmosphere is contrastingly colorful in the void of space. The game is aimed at beginners to the genre, as puzzle quests usually start at the first screen of an area, and you need to go in deeper to solve it. There is a guidebook too, for your perusal. The idea of having ‘consumables’ and ‘keepables’ is a nice touch.

In the menu, you have a pink bug/animal living in your head, but when the game starts, you have only lily pads and I am sure it is not a frog. Though I did chuckle – thinking of it as a skinless frog. It is in actual fact, a brainpillia. I am not sure if it is an attempt at humour, or the developers could not find a name for it as it looks like a tick that whistles like a bird.

The unlocking sequences require decent sound, just by the way, the tinny speakers on my craptop made the game a lot harder than it ought to be. For a game that uses sounds to solve puzzles, the game music was on loop and got on my nerves real quick. To add insult to injury, the “enemy” in the game are crystals, and the music loop sounds like it was made on crystals. The music is credited to this weird lady: *https://www.youtube.com/watch?v=UMXlGR3qqPY* By the looks of it, she is French, so there’s that.

I found that a lot of the puzzles are sequence based. It is not a bad thing, just an observation. Let’s face it, with point-and-click games, it is all about the story and the puzzles. Don’t know much about Wabi Sabi games, but their website is really crappy and their twitter page is in Spanish. Still, I think it is a small team of developers who did good. Machinarium was a feel-good puzzler and this is too. I liked that spaces changed; for instance an empty room may have a character in it later on in the game. This made the game feel more alive – not saying it was dead, as even repairing the plants, you only heal like tears, there are no dead spaces. I am not talking about the frozen characters, or robot with a broken dome though.



Overall this is a cutesy game with an interesting mechanic in a very limited space. It may have been nice if the game continued on the planet below, but that is a nice-to-have, not a deal breaker. As this is aimed at newcomers to the genre, the play time may have an effect, so keeping it short n' sweet is the right thing to do.

The ending is a letdown. I will put it out there, but I will not spoil it (the kissy sounds and the throbbing hearts for "best friends" in the sequence was also weird), and the music is mediocre at best. The sims-type talking also did not fit the game – you are a robot, not Aquaman.

I would not spend $20 (about $300 NAD) for this game, though there is nothing wrong with it, I would rather wait for a sale as there is really no replay value in it.

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The current site was created thanks to **Lucas Westermann** (Mr. Command & Conquer) who took on the task of completely rebuilding the site, and scripts, from scratch, in his own time. The Patreon page is to help pay the domain and hosting fees. The yearly target was quickly reached thanks to those listed on this page. The money also helps with the new mailing list that I set up.

Several people have asked for a PayPal (single donation) option, so I 've added a button to the right side of the website.

A big thank you to all those who've used Patreon and the PayPal button. It's a HUGE help.

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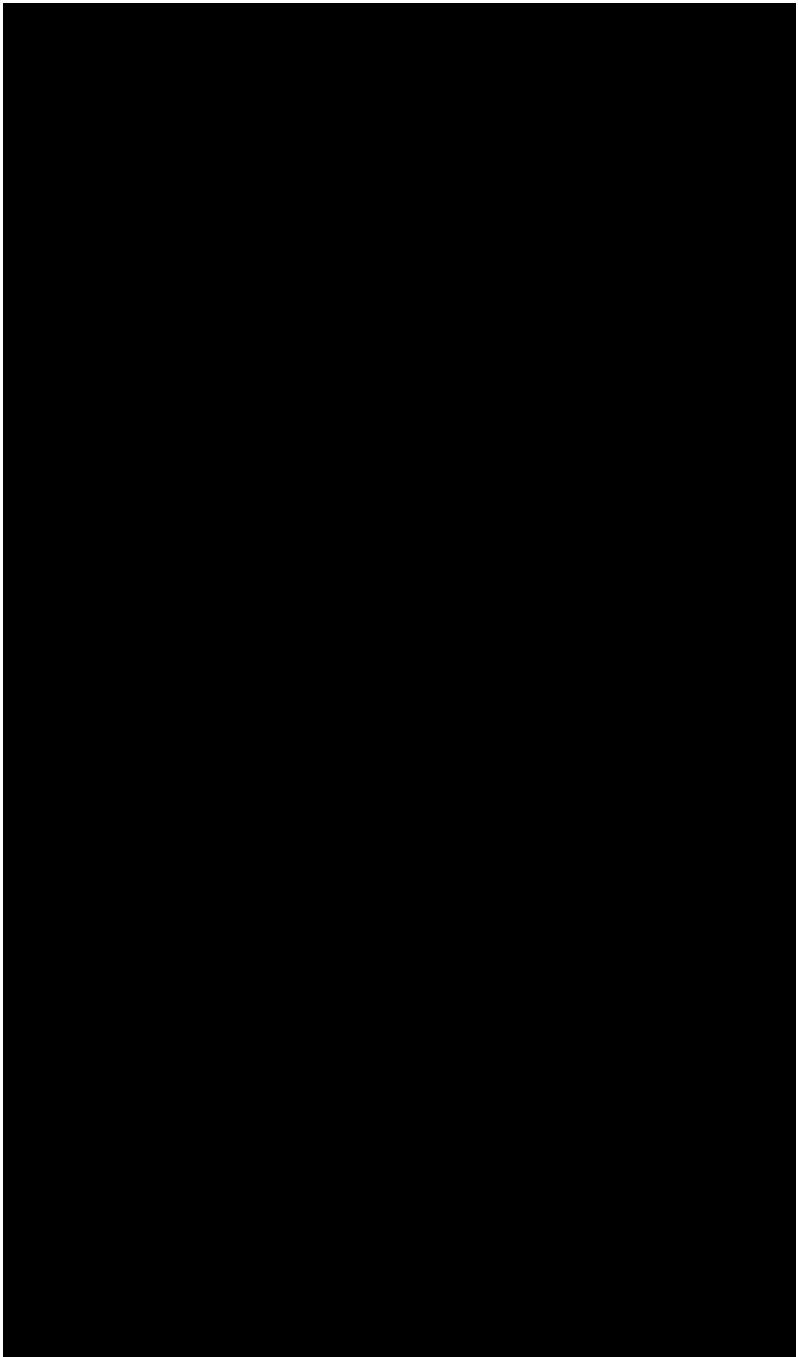

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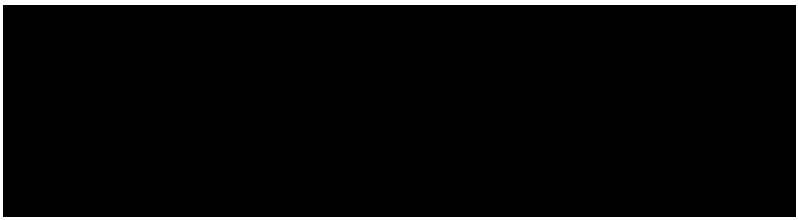
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